SUBTLE SENSEMAKING, LARGE CONSEQUENCES: IMPLEMENTING THREE TEACHER POLICIES IN A CHINESE CONTEXT

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ABSTRACT

SUBTLE SENSEMAKING, LARGE CONSEQUENCES:
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Many governments around the world have been using teacher policy to improve their teacher workforces. While some of those policy endeavors realized intended goals, many others did not. Scholars have proposed theoretical tools to interpret this policy-practice divide, among which the sensemaking framework (Spillane, Reiser, & Reimer, 2002) is the one that emphasizes the central role of policy actors in education reforms, especially how they construct meanings about and act on policy signals. As informed by the sensemaking framework, mounting empirical evidence generated in relatively individually-oriented societies (e.g., United States) has confirmed the agency of policy actors in teacher workforce reforms. But to date, little is known about the agency of policy actors in less individually-oriented contexts, and in what ways sensemaking contributes to the agency of policy actors.

Guided by a sensemaking framework tailored for studying teacher workforce reforms, this qualitative case study investigates how six policy actors carry out three teacher policies in one rural county in China. From May to August 2016, I stayed at the research site and collected a range of data, including multiple interviews with each of the participants, observation notes of policy implementation events, and archival data about the policy impact. My analysis of the data was an iterative process of inductive and deductive coding, cross-unit analysis (i.e., participant, policy, and time as a unit), and triangulating emerging assertions with multiple sources of data and external reviewers.

My analysis leads to two major findings. First, I identified four sensemaking activities that the participants used to navigate their implementation of the policies. These were *sense-orientation*—seeking a general sense of direction for policy implementation; *sense-specification*—mapping out a specific implementing scheme; *sense-giving*—negotiating collective meanings for implementation; *sense-adaptation*—adapting thoughts and actions according to the changing circumstances. Second, the participants' sensemaking caused a ripple effect and ultimately exerted impact on the size, quality, and structure of the local teacher workforce, and the impact was mediated by a set of socio-cultural factors (e.g., anti-corruption campaign, *guanxi* and *mianzi* in traditional Chinese culture).

This study contributes to the existing literature a conceptualization of policy actors' sensemaking process. It also suggests that even for those working at the ground level and in a collectively-oriented system, policy actors are not passive followers but active change-makers. The findings also highlight the cultural dimension of policy implementation, which I argue should be addressed more explicitly in future policy studies.

To Meilin and Yanji

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CHAPTER 1

TEACHER WORKFORCE AS A POLICY ISSUE IN CHINA AND INTERNATIONALLY

During the first few years of my doctoral study, I conducted a research project on China's Free Teacher Education (FTE) program. FTE is a policy initiative that aimed at channeling highly-qualified teachers to China's underdeveloped rural regions (Ministry of Education of China, 2007). The primary finding of this project is that FTE "failed" in achieving its intended goal of closing the teacher quality disparity between China's urban and rural schools, and the ineffective local policy implementation has largely contributed to this "failure" (Liao & Yuan, 2017). This finding resonates with many previous studies' conclusion that policy implementation is pivotal for education reforms (e.g., Young & Lewis, 2015; Honig, 2006).

The FTE project directed my attention from evaluating policy impact to understanding how policies are constructed on the ground. Subsequently, I conducted an extensive review of the academic and public discussions on education reforms in China, hoping to learn more about how education policies were being implemented in China. However, what surprised me was that scant attention was paid to the process of policy implementation, and even less attention was given to how people (especially the ground-level policy actors) shaped policy implementation process and outcomes. This may be because, relatively speaking, China's education governance system is hierarchical (Saich, 2010). One of the underlying assumptions of a hierarchical system is that people working at the ground level do not have the capacity or the need to do things on their own (Zhou, 2014, 2013). However, the research findings of my FTE project and many other studies over the years (e.g., Achinstein & Ogawa, 2006; Cohen, 1990; Weatherley & Lipsky, 1977) challenge the assumption that local education policy actors are passive followers.

Thus, in this dissertation study, I chose to look closely into how ground-level policy actors implement education policies in China's hierarchical governance system. Though this work was initially triggered by a Chinese phenomenon and took place in a Chinese context, the problems concerned in this study (i.e., policy implementation, the agency of policy actors, and teacher workforce reform) are ones many other countries face as well.

In the remainder of this chapter, I first situate this study in an ongoing global discourse around teacher workforce reform. Next, I introduce the context of this study and the specific challenges that China is facing in reforming its teacher workforce. Then, I lay out a range of policy interventions that have been widely used to strengthen teacher workforces both in China and internationally. Finally, I elaborate the contributions that this study can make to research, policy making, and policy practice. I explain why at this moment we need to re-examine the roles of policy implementing actors in education reform.

Building Strong Teacher Workforces: A Global Consensus, Varying Challenges

The teacher is at the heart of a country's education system (Liao & Zhou, forthcoming; Zhu & Zeichner, 2013). The quality of teachers can significantly influence students' learning experiences and outcomes (Darling-Hammond, 2000; Akiba, LeTendre, & Scribner 2007; Wayne & Youngs, 2003). Thus, many countries have placed teachers at the center of their education reform agenda (Robertson, 2012; Darling-Hammond, Burns, Campbell, & Hammerness, 2017).

However, due to their differing educational and social development statuses, different countries are facing varying challenges in reforming their teacher workforces. Before I elaborate on these challenges, it is necessary briefly to define the concept of teacher workforce. "Workforce" is a term stemming from the fields of labor economics and human resource

management (Randolph Thomas & Horman, 2006; Loeb & Reininger, 2004). Roughly, workforce refers to the whole of people working in a field or profession. By applying this term to the teaching profession, teacher workforce means the collective body of all teachers working in a specific geographical, organizational, or national context (Huang, Benson, & Zhu, 2016).

Teacher workforce has multiple facets, but the *size*, *quality*, and *structure* seem to be the three most often mentioned in the discussions on teacher workforce reform (Huang et al., 2016; Zhu, 2010). Specifically, *size* refers to the number of teachers in the workforce. Teacher shortage problems are primarily related to this facet of a teacher workforce. It is often presented in the form of student-teacher ratio (Ingersoll, 2003). The *quality* of a teacher workforce refers to the average professional competencies of all teachers in the workforce. Teaching experience, educational attainment, and certification status are some commonly used proxies for the quality of a teacher workforce (Darling-Hammond, 2000). The *structure* is the third widely discussed facet of a teacher workforce. It refers to how the teachers in the workforce are distributed by variables of interest, such as region, school condition, and student characteristic. The size, quality, and structure together constitute a framework for understanding the problems in a teacher workforce and for pinpointing the focus of teacher workforce reform (Zhu, 2010).

Using Size-Quality-Structure as a framework, we can see the various problems facing the teacher workforces in different countries. For instance, in many developing countries (e.g., Kenya, Malawi, and Tanzania), the governments are still working hard to staff every classroom with enough teachers (Chudgar, Chandra, & Razzaque, 2014). Their problems primarily center on the difference between the size of their teaching workforce and the number of school teachers they need. Nevertheless, in some other countries (e.g., United States, Australia, United Kingdom) where their education systems have been well developed, the primary concern is not

teacher shortage, but the structure of the teacher workforce (Ingersoll & Smith, 2003). In other words, these countries are focusing on equalizing the distribution of quality teachers across different regions (e.g., urban, suburban, rural), school conditions (e.g., under-resourced schools vs. well-off schools), and student backgrounds (e.g., schools with predominantly white students vs. with students from diverse racial/ethnic backgrounds) (Darling-Hammond, 2015; Darling-Hammond & Berry, 2006). Still other countries, such as Singapore and Finland, barely have teacher shortage issues, nor do they have serious inequality problems in the teacher workforce structure. Yet even in these educationally "advanced" countries, their governments are still persistently trying to improve the quality of their teachers to meet the needs of the new eras (Darling-Hammond & Lieberman, 2013; Sahlberg, 2010).

In sum, building a strong teacher workforce has become a shared goal of the education reforms undertaken by many developing and developed countries around the world. For instance, over 160 countries are participating in a global reform agenda called *Education 2030*[1] to ensuring access to basic education for all, and "increasing the supply of qualified teachers" is identified as a key means of implementing this agenda (UNESCO, 2015, p. 19). But due to the varying national contexts, different countries face different teacher workforce problems, which leads them to target different foci (e.g., the size, quality, or structure of the teacher workforce) in their respective education reforms.

The Challenges Facing China's Teacher Workforce

China has faced changing problems in its teacher workforce. The country successfully improved the basic conditions of education (including its teacher workforce) during two decades of efforts after the nation was founded in 1949. However, starting in 1966, China experienced the

[1] "Education 2030" is a global education reform agenda led by the United Nation Educational, Scientific and Cultural Organization (UNESCO), aiming to meet the learning needs of all children, youth and adults by 2030.

ten-year-long movement called the Cultural Revolution[2]. This social campaign brought upheaval across the country and damaged many sectors of the society, including the teacher workforce. The Cultural Revolution was finally ended by the leader Deng Xiaoping in 1976. In 1978, Deng and his leadership team started China's most recent and also most successful social and economic reform called "Reform and Opening-Up." The reform marked a national reconstruction of the society, including the reconstruction of China's teacher workforce. Guided by a series of national policies on teaching and teacher education, China's teacher workforce for elementary and secondary schools has significantly improved in terms of its size and quality (Liao & Zhou, forthcoming).

Policymakers and researchers have used multiple indicators to measure the size and quality of a teacher workforce. Three indicators are widely used to measure the size of a teacher workforce: number of teachers, student-teacher ratio, and class-teacher ratio (Zhang, 2011). The number of teachers reflects the absolute size of a teacher workforce, and the two ratio indicators reflect the relative size. Specifically, the student-teacher ratio is the average number of students that a teacher needs to teach. The greater the student-teacher ratio is, the more students a teacher needs to work with, and the less adequate the teacher workforce would be in meeting students' learning needs. The concept of class-teacher ratio is similar, but it measures the relative size of a teacher workforce at the class (grade) level. The class-teacher ratio is particularly useful in revealing teacher shortages in schools whose student populations are small but the students are diverse in terms of grade level. For instance, for a school with thirty students and two teachers, the student-teacher ratio is 30/2=15. It means that on average each of the two teachers needs to

[2] The full name of the Cultural Revolution is "the Great Proletarian Cultural Revolution." It was a political movement launched by Mao Zedong, the supreme leader of the Chinese Communist Party (CCP). Its goal was to rectify the over-bureaucratization of CCP since it took power in 1949, but it eventually evolved into factional fights and social turmoil (Wu, 2013).

work with fifteen students. If we use student-teacher ratio only, this school does not seem to lack teachers because the student-teacher ratios of many adequately staffed schools in China are also about 15. However, if the thirty students are from six different grades and for each grade the mandatory curriculum covers several subjects, the two teachers would have no choice but to put different grades of students in the same classroom and teach multiple subjects simultaneously. Consequently, it is unlikely that the school can provide developmentally and disciplinarily appropriate instruction to the thirty students. The situation of many rural schools in China is like this. Therefore, in addition to student-teacher ratio, China's policy makers and researchers introduced class-teacher ratio as an additional indicator for capturing the relative size of a teacher workforce.

In terms of the quality of a teacher workforce, policy makers and educational researchers have used a range of indicators, some are easy to quantify (e.g., teacher's educational attainment, certification status) while some others (e.g., teaching artifacts) are not (Darling-Hammond & Youngs, 2002). A complete measure should integrate both types of indicators, but the available data about the quality of China's teacher workforce are mainly reported on quantifiable indicators, such as teacher's educational attainment.

Figures 1-3 illustrate how the size and educational attainment of teachers in China's primary, middle, and high schools have transformed from 1978 to 2016. For instance, the numbers of middle school teachers have increased from 2,440,700 to 3,487,789 between 1978 and 2016. Similar patterns existed in the data about primary and high school teachers. Furthermore, in 1992, only 0.1% primary school teachers held a degree at the bachelor's level or above, but this number climbed up to 4.6% in 2004 and 50.4% in 2016. Similar patterns are also present in the data about middle and high school teachers.

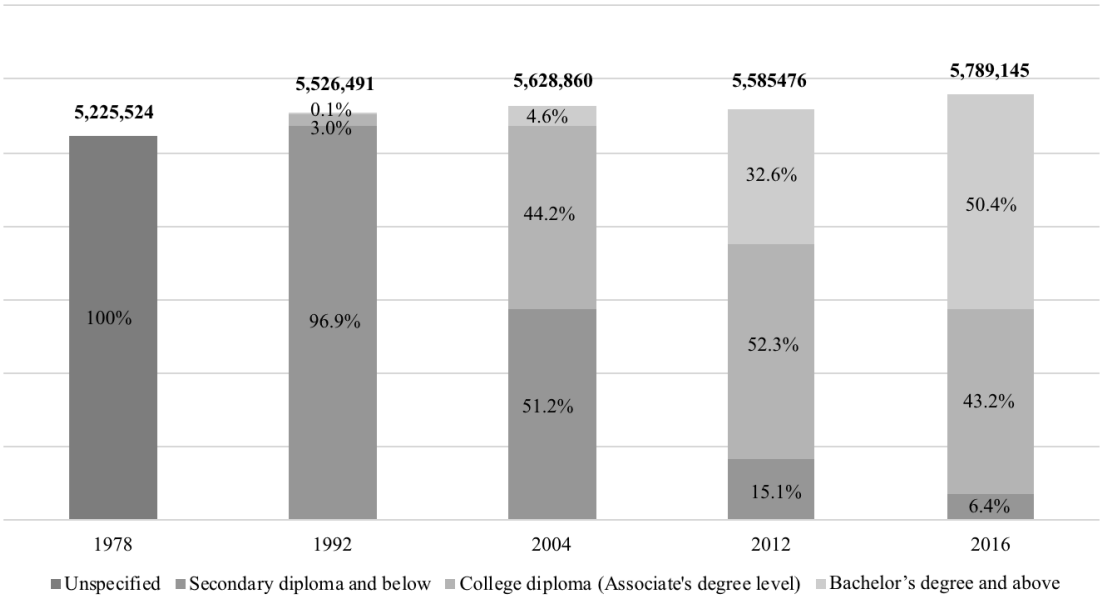


Figure 1. Numbers of China's primary school teachers and the distribution of teachers by educational attainment in selected years between 1978 and 2016

Notes about Figures 1-3:
a. Data sources: *Educational Statistics Yearbook of China* (1978, 1992, 2004, 2012, 2016). Beijing: People's Education Press.
b. Teachers' educational attainment was not reported in the 1978 Yearbook, but it has the numbers of teachers in primary, middle, and high schools. I still include the 1978 data in Fig 1-3 in order to show the changes in the size of the teacher workforce.

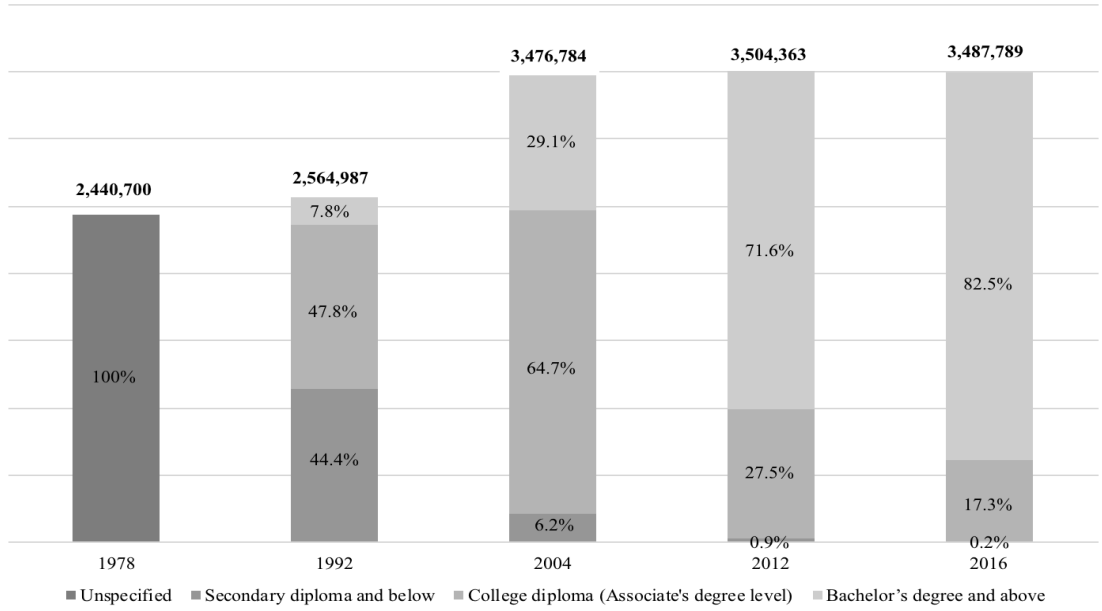


Figure 2. Numbers of China's middle school teachers and the distribution of teachers by educational attainment in selected years between 1978 and 2016

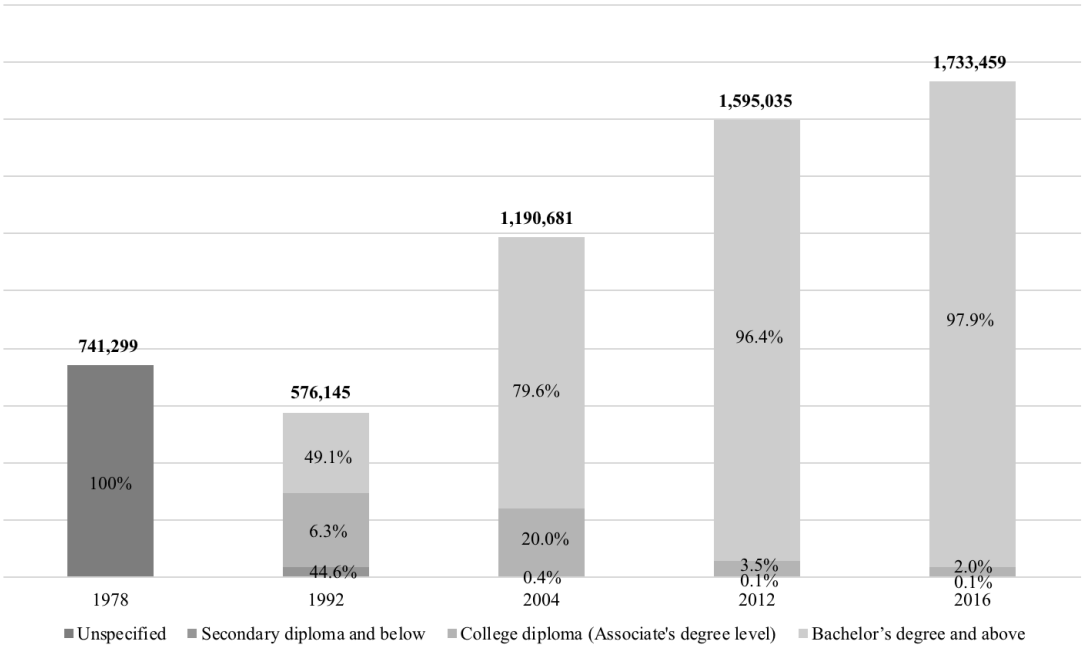


Figure 3. Numbers of China's high school teachers and the distribution of teachers by educational attainment in selected years between 1978 and 2016

Overall, Chinese schools today have sufficient numbers of teachers and of increasingly higher quality, but the structure (or distribution) of China's teacher workforce has become alarmingly unequal since 1978. Different from the United States, where urban schools are often perceived as "problematic," in China, it is the rural schools that are often targeted by policy makers. The problems of China's rural schools and teachers are rooted in China's long-standing urban-rural divide. Since the establishment of the People's Republic of China in 1949, the Chinese government has adopted a series of national development strategies that regularly favor urban over rural regions. These policies have eventually led to a status quo in which rural areas significantly lag behind urban regions in many aspects, including economic development, housing, medical service, and education (Tam & Jiang, 2015; Liu, Zhang, Lu, Kwon, & Quan, 2007; Hiroshi, 2006; Lu & Chen, 2006).

As a reflection of urban-rural disparity in the teacher workforce, rural schools are often staffed with fewer teachers than schools located in urban regions. Figure 4 shows the class-teacher ratios of China's rural and urban compulsory education schools[3] between 2004 and 2013.

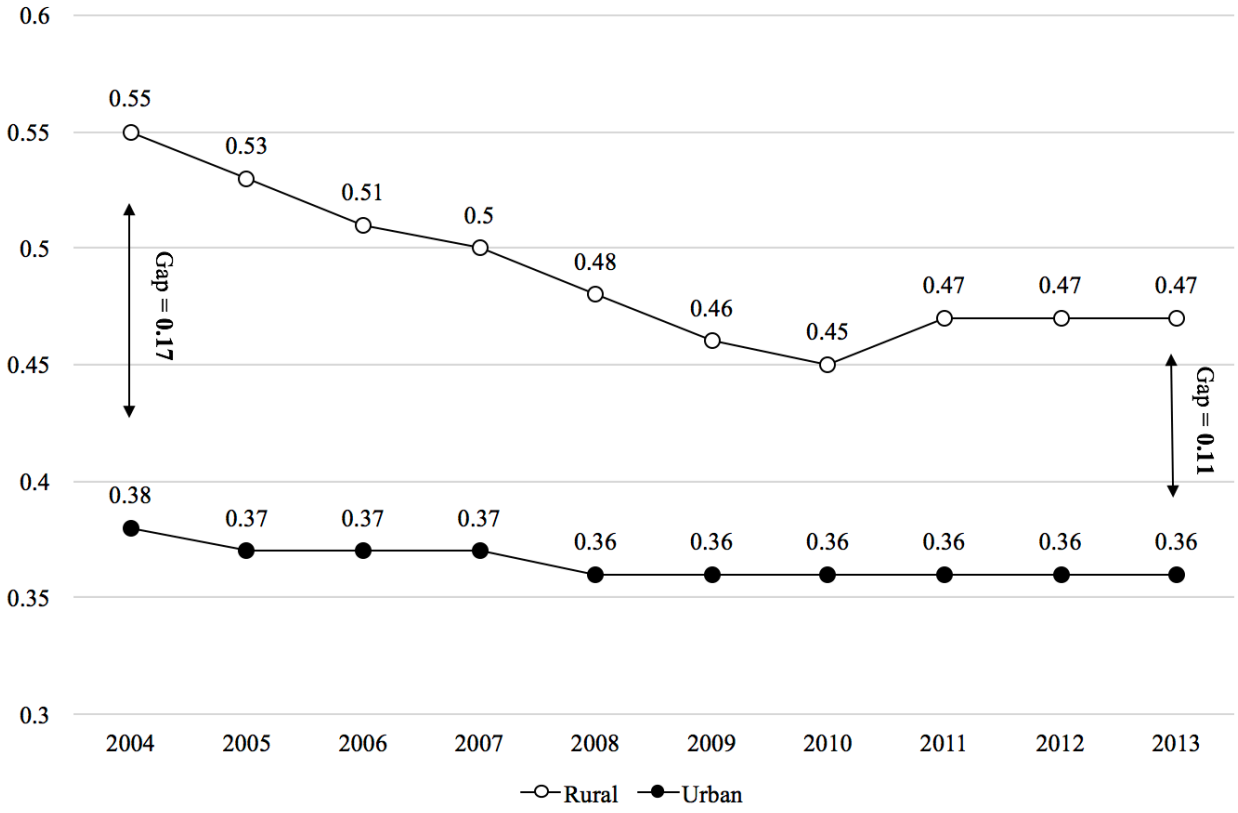


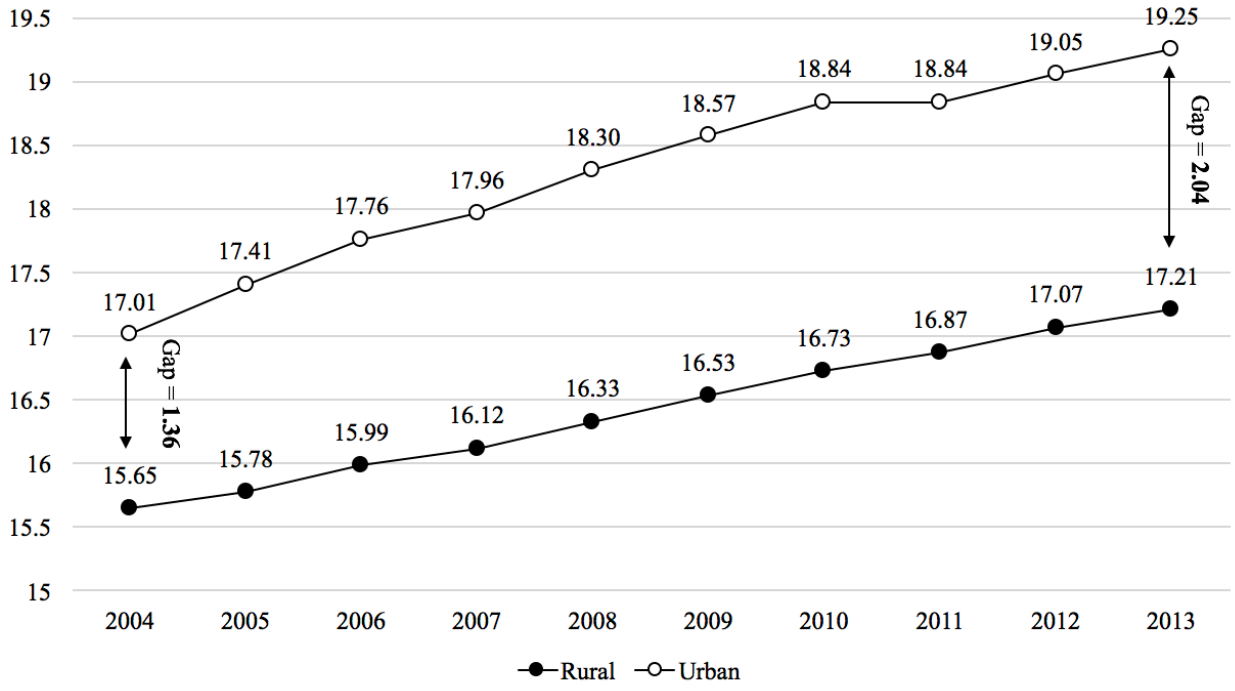
Figure 4. The class-teacher ratios of China's compulsory education between 2004 and 2013

(Data sources: *Educational Statistics Yearbook of China* (2004-2013). Beijing: People's Education Press)

Though the class-teacher ratio gap declined from 0.17 (as of 2004) to 0.11 (as of 2013), the rural schools persistently face greater challenges than urban schools do in securing sufficient teachers to educate all students. Because of the shortage of teachers working in rural schools, the

[3] In China, compulsory education refers to primary education (Grades 1-6) and lower secondary education (Grades 7-9). Because most of the high schools are located in urban areas, there is no rural-urban comparison at the high school level.

majority of rural teachers need to take on administrative or class management work[4] in addition to their already heavy teaching workload (Wu & Qin, 2015).



(Data source: Xue & Li, 2015)

Figure 5. The educational attainment of teachers in China's compulsory education schools between 2004 and 2013

The quality of rural teachers is a more pressing issue. In 2010, only 45.16% of teachers in rural schools held post-secondary degrees, but 72.77% of urban teachers did (Ministry of Education of China, 2010b). Xue and Li (2015) used Analytic Hierarchy Process (AHP)—a structured technique for organizing and analyzing complex decisions—and developed a quantitative measure of teacher's educational attainment. Using their measure as a proxy, as

[4] In addition to teaching, Chinese teachers are often required to undertake administrative work in schools. A typical administrative role many Chinese teachers assume is called banzhuren (班主任, head teacher). Banzhurens are responsible for managing the non-teaching aspects of a class, such as dealing with students' misbehaviors, facilitating class discussions on relevant topics (e.g., how to be a good citizen of the school), and organizing class-wide activities (e.g., donating money for students who have experienced a life or family tragedy).

shown in Figure 5, the teacher quality gap between China's urban and rural compulsory education schools widened from 1.36 (as of 2004) to 2.04 (as of 2013). In addition to educational attainment, rural teachers also appear to be less qualified than their urban counterparts in many other aspects, including in terms of content knowledge, experience, and classroom teaching quality (Han, 2013; Robinson & Yi, 2008; Ayoroa, Bailey, Thompson, & Geo-JaJa, 2007).

In short, since the end of the Cultural Revolution, China's teacher workforce has developed well in terms of its overall size and quality. However, its structure has become alarmingly unequal between the urban and rural schools. This situation produces calls for policy makers' attention and action.

Policy Efforts at Improving Teacher Workforce

The unbalanced development of China's teacher workforce has caught the attention of policymakers. In the past ten years or so, the Chinese government has enacted a set of teacher policies to improve China's teacher workforce. These include "The Special Teaching Position (STP) Program" (Ministry of Education of China, 2006), "The Free Teacher Education (FTE) Program" (Ministry of Education of China, 2007), "The National Professional Development (NPD) Program" (Ministry of Education of China, 2010a), "The Urban-Rural Teacher Exchange (URTE) Program" (Ministry of Education of China, 2012), and "The Rural Teacher Support (RTS) Program" (Ministry of Education of China, 2015a). Before I introduce these policies in greater detail, I review the literature about teacher policy and conceptualize five major policy approaches to tackling teacher workforce problems.

To date, international policy makers and practitioners have relied on a wide range of teacher policies to address workforce problems related to teachers. A useful way of reviewing

such a rich set of policies is to focus on the interventions used by them. Based on the existing literature, I have identified five primary types of teacher policy interventions. These are,

1. Curricular reform (of the initial teacher preparation programs)
2. Alternative hiring
3. Incentives
4. Professional development
5. Teaching placement adjustment

The first set of teacher policies focuses on reforming the curricula of initial teacher preparation programs. By enhancing the curricular experiences that teacher preparation programs offer to pre-service teachers, this type of policy aims to improve the quality of teachers, and shape their career choices regarding whether, where, and in which school to teach. For instance, many teacher education programs in the United States have introduced diversity courses into their curricula. By doing so, reformers hope to develop pre-service teachers' awareness of and their capacity for conducting quality teaching for *all* students (Cochran-Smith, 2010). Another example could be the emergence of teacher education study abroad programs in recent years. By relocating the sites of prospective teachers' learning to be in transnational settings, these program interventions are aimed to develop novice teachers' capacity for working in global contexts (Paine, 2014; Liao, Glew, & Song, 2017). In brief, the first type of policy approaches relies on curricular interventions, hoping to influence the quality and distribution of pre-service teachers.

The second intervention is alternative hiring strategies, which is primarily aimed at addressing teacher shortage issues in high-need schools. Chudgar, and her colleagues (2014) reviewed the recent studies on this type of policy. Their review suggests that while such policies have alleviated the seriousness of teacher shortage in hard-to-staff contexts, teachers who hired

through the alternative routes are often undertrained, underpaid, and inexperienced compared to their traditionally recruited counterparts. Scholars thus raised concerns that this form of teacher hiring may not be sustainable and may negatively impact the structure of the teacher workforce (Chudgar et al., 2014; Vasquez Heilig & Jez, 2010). For instance, Vasquez Heilig & Jez's (2010) study found that more than 50% of the participants of Teach For America, a well-known alternative hiring program in the United States, left the teaching profession after two years and more than 80% left after three years.

The third set of teacher policies primarily relies on incentives. McEwan (1999) studied 21 developing countries' monetary incentive policies for recruiting and retaining teachers for their rural schools. He suggests that monetary incentives seem to be an effective tool for equalizing teacher quality across schools because they tend to counteract nonmonetary aspects of teaching jobs in hard-to-staff schools, such as unfavorable geographic locations. On the other hand, Guarino, Santibanez, and Daley (2006) conducted a literature review and found some non-monetary incentives, such as school administrators' support as well as induction and mentoring programs, are also critical for enhancing teachers' motivation to work in hard-to-staff schools. However, there are no universal rules about what and how much monetary and non-monetary incentives will be useful in recruiting and retaining teachers for a particular high-need context. Therefore, the power of different incentives needs to be evaluated with regard to the specific context where they are used (Honig, 2006).

The fourth type of teacher policy intervention is professional development (PD). Teaching is a life-long learning profession. PD opportunities are pivotal for supporting teachers to learn throughout their career trajectories (Avalos, 2011; Borko, 2004). PD interventions are mainly targeted at the quality of teaching. For instance, in the United States, when the Next

Generation of Science Standards (NGSS) was introduced as a reform, large-scale and sustained PD training was needed to help teachers actively use NGSS in their classrooms (Wilson, 2013). In brief, PD is another widely used intervention for shaping teacher workforces, and it is primarily targeted at the quality and continuous development of the teacher workforce.

The last kind of intervention is teaching placement adjustment. I use "teaching placement adjustment" as an umbrella to cover the various approaches related to teachers' placements, such as teacher rotation—teachers rotate among different schools every few years (Kang & Hong, 2008), teacher exchange—paired up schools exchange their teachers for a period of time (Fan & Long, 2006), and teacher volunteering—college students or teachers from other schools go to teach in high-need schools as volunteers for a certain amount of time (Fu, 2009). These policy efforts primarily are aimed at re-structuring teacher workforces. For instance, teachers in South Korea are hired by the city or provincial governments and assigned to positions in local schools. Then every five years, the teachers are required to move to a different school within the same province. By doing so, teachers have a relatively equal probability of teaching in any given school within the province (Kang & Hong, 2008). Similarly, Japanese teachers do not select the schools in which they teach but are assigned by their prefectural Board of Education to schools. Teachers are rotated on a regular basis, usually every six to seven years (Kansai Society for Educational Administration, 1999).

To sum up, looking across the various and many teacher policies, I identified five main approaches to reforming teacher workforces. These are curricular reform of initial teacher preparation, alternative hiring, incentive, professional development, and teaching placement adjustment.

Chinese Teacher Policies

As briefly mentioned at the beginning of this section, the Chinese government has enacted five ambitious teacher policies to reform China's teacher workforce over the past ten years. Each policy draws on a range of interventions. Table 1 provides an overview of the interventions that each uses and which dimension(s) of the teacher workforce they are respectively aimed to improve.

In 2006, the Chinese government started implementing the *Tegang* policy, roughly translated as The Special Teaching Position Program (STP). STP uses a combination of alternative hiring and incentives as its interventions. It directly targets the size and quality of China's rural teacher workforce, but its ultimate goal is to make the teacher workforce structure more equal between urban and rural schools. Particularly, the goal of STP is to hire sufficient and qualified teachers for China's most under-resourced rural schools. To realize the goal, STP deregulates the entry to teaching, for those being hired through this specific channel, by making those who graduate from non-teacher education programs but hold bachelor's or above degrees eligible to apply to teach. STP initially hire teachers on a three-year fixed-term contract, and the national government pays STP teachers' salaries (i.e., monetary incentives to local governments). By the end of the third year, STP teachers with satisfactory performance are eligible to get their contracts renewed and to become tenured teachers (Ministry of Education of China, 2006).

Table 1. China's teacher policy, intervention approach, and intended target

China's teacher policies	Policy interventions					Teacher workforce		
	Curriculum reform	Alternative hiring	Incentives	Professional development	Teaching placement adjustment	Size	Quality	Structure
1. Special Teacher Position Program (STP, 2006)		X	X			X	X	X
2. Free Teacher Education Program (FTE, 2007)	X		X				X	X
3. National Professional Development Program (NPD, 2010)				X			X	
4. Urban-Rural Exchange Program (URE, 2012)			X		X			X
5. Rural Teacher Support Plan (RTS, 2015)			X	X				X

STP was developed under the background that teaching and teacher education have been marginalized during the massification of higher education that began in 1998. STP was brought up as a solution to the issue of increasing unemployment of college graduates. STP also took into account the fact that teaching as an occupation had lost its appeal to job seekers because of the low incomes and increasingly demanding environments for teaching. Especially for schools located in underdeveloped rural regions, very few teachers have been willing to go and teach there. STP was designed to use increased access to teaching as a way to address the problems of underemployment of college graduates and low teacher recruitment (to rural teaching).

As of 2016, over 500,000 STP teachers have been recruited and placed into more than 30,000 rural schools located in the most underdeveloped rural regions of China, which have significantly alleviated the teacher shortages those schools face. Furthermore, according to a national survey conducted by China Education Daily in 2015, over 90% STP teachers chose to stay in the teaching profession after their first three years of teaching (Liu, 2017).

The second policy that aims to improve the teaching workforce is The Free Teacher Education Program (FTE). FTE relies on both incentive and curricular reform as its interventions, and it targets the quality and structure of China's teacher workforce. Starting from 2007, the six national normal universities[5] were tasked to prepare highly qualified teachers for Chinese schools, especially those located in underdeveloped provinces and regions. The central idea of FTE is to use incentives to attract high-performing high school graduates, especially those are in need of financial support for college education, to join teacher education programs (Ministry of Education of China, 2007). Another incentive of FTE is that the six universities are

[5] There are six normal universities directly affiliated with the Ministry of Education (MOE) of China. These are Beijing Normal University, East China Normal University, Northeast Normal University, Central China Normal University, Shaanxi Normal University, and Southwest University. These universities are considered the national normal universities in China.

highly ranked among Chinese universities and hence are desirable to many high school graduates. FTE also aims to enhance China's teacher workforce by reforming the teacher preparation curricula, such as strengthening the teaching internship, and exploring innovative teacher preparation models. During the massification of higher education, many teacher education institutions started to offer non-teacher education programs, which has led to the steady loss of quality teacher candidates to more economically promising majors and departments. The national government attempted to use the FTE policy and its administrative power over the six most prominent normal universities to refocus teacher education institutions on preparing teachers. According to its design, FTE participants can receive a generous package of benefits, including the waiver of tuition and housing fees, a monthly stipend, and a guaranteed civil servant teaching position (equivalent to a tenured teaching position in other contexts) after they graduate. Upon completion of the study, FTE graduates must go to teach back in their home provinces and commit to teaching for at least ten years. Otherwise, they are liable for refunding all educational costs, paying the penalty, and being blacklisted in a Credit Record Archives established by the educational authorities (Wang & Gao, 2013). As of 2015, over 100,000 high school graduates have been recruited into FTE programs and over 95% of FTE graduates went on to teach in their home provinces after graduation (Liao & Yuan, 2017). However, FTE regulates that after graduation the participating teachers should go back and teach in their home provinces for at least ten years. Because of the regulation, many FTE teachers feel "locked" in the profession, especially those who eventually find that teaching is not their long-term career goals. The lack of an exit mechanism has led some FTE teachers to take a passive attitude towards their teaching and professional development (Liao & Yuan, 2017).

The third policy initiative, *Guopei*, roughly translated as The National Professional Development Program (NPD), uses professional development as the intervention in order to enhance the quality of China's teacher workforce. The implementation of NPD started in 2010. NPD provides diverse, tailored, and sustained professional development programs to in-service rural school teachers. Typical NPD programs include the several days of intensive face-to-face training on relevant topics (e.g., use of technology in teaching), semester-long online training, and one-year-long off-job professional learning in normal universities or colleges (Ministry of Education of China, 2010a). As of 2015, over 1 million primary and secondary school teachers have participated in NPD programs. Over 95% of the participating teachers were from rural schools (Ministry of Education of China, 2015b).

Zhihuan, or The Urban-Rural Exchange Program (URE), the fourth teacher policy, began in 2012. Different from the first three policies, URE primarily relies on teacher exchange, an intervention under the category of teaching placement adjustment, to equalize the distribution of China's teacher workforce. The core idea of URE is to facilitate the exchange of teachers between urban and rural schools to equalize students' access to quality teachers. This policy comes along with both material incentives (e.g., transportation subsidy[6]) and non-material incentives (e.g., professional award, the advantage of being promoted early) to motivate teachers to be willing to change temporarily their workplaces. Though this type of policy has rarely been used in Western contexts, Japan and South Korea are well known for their long-term practice of rotating teachers (Kang & Kong, 2008; Kansai Society for Educational Administration, 1999). Furthermore, staff exchange has been used in the management of China Communist Party (CCP)

[6] The URE program provides transportation subsidy to cover the transportation expenses occurring to teachers who participate in the exchange program, because many teachers need to commute between their homes and the rural schools where they teach temporarily.

cadres for a long time (Edin, 2003). In recent years, this administration approach has been introduced into other public sectors such as medical service and education (Li et al., 2015; Cao & Wu, 2014). URE is a reflection of this trend in education.

Xiangcun Jihua, or roughly translated as The Rural Teacher Support Program (RTS) (Ministry of Education of China, 2015a), is the most recent teacher policy introduced. This policy uses incentive and professional development as the interventions in order to improve the unequal distribution of China's teacher workforce. Similar to the goals of the earlier teacher policies, RTS was designed to equalize the teacher workforce structure by providing a variety of incentives to rural teachers. These include material incentives (e.g., transportation subsidy), professional promotion and rewards, and so forth. Since this policy has been implemented less than two years, it is too early to determine its impact on China's teacher workforce.

Summary

China's teacher workforce is educating the largest student population in the world. With decades of development, the teacher workforce in China has significantly improved in terms of size and quality. Due to China's historical urban-rural divide and the recent social and economic reforms, its teacher workforce is becoming increasingly unequal between urban and rural regions. In order to better ensure that every student can have access to quality teachers, the government has started implementing five ambitious policy initiatives that use a range of policy interventions. To date, while some of those policy efforts have achieved their intended goals, some others have not. Policy implementing actors play a pivotal role in translating policy ideas into realities. But to date, little is known about how policy actors, especially those working on the ground level, construct these ambitious Chinese teacher policies in their daily practices. To begin to close this research gap, this study is aimed at understanding how Chinese local policy

actors implement teacher policies. The serious challenges facing China's teacher workforce, the wide range of teacher policy interventions that the Chinese government uses, and the variations in those policies' impact on teacher workforce jointly offer a lively case for studying how to use teacher policy to improve teacher workforces.

CHAPTER 2

CONCEPTUALIZING POLICY IMPLEMENTATION: A SENSEMAKING PERSPECTIVE

In Chapter 1, I introduced how I arrived at the topic of my dissertation study. After years of learning and exploration, I have narrowed my focus from teacher workforce reform—a broadly defined space of policy and research—to policy implementation in particular. At the beginning of this chapter, I briefly review the dominant perspectives for conceptualizing policy implementation in the existing literature. Then, I explain why I choose the sensemaking perspective for this study. Third, I introduce a conceptual framework for understanding teacher workforce reform that I developed based on the sensemaking perspective. Finally, I lay out my research questions and explain why I ask them, and how they can serve the overarching goal of this project.

Existing Perspectives for Conceptualizing Policy Implementation

Benefiting from many other disciplines—including sociology, political science, and psychology—education policy implementation studies have developed at least three perspectives for conceptualizing policy implementation over the past 50 years: an economic perspective, a socio-political perspective, and a sensemaking perspective (Honig, 2006). Although the three perspectives are not mutually exclusive, they differ from each other in several important aspects, including their definitions of policy and policy implementation, what sorts of research questions they investigate, and what factors they believe to be consequential to policy implementation process and outcomes. In brief, the economic perspective addresses the importance of costs, self-interests, and incentives in policy implementation (Loeb & McEwan, 2006). The socio-political one emphasizes social and political dynamics in policy implementation (Malen, 2006; Smylie &

Evans, 2006). The sensemaking perspective primarily investigates how policy implementing actors interpret and influence the implementation process (Weatherley & Lipsky, 1977; Coburn, 2001; Spillane, Reiser, & Gomez, 2006).

The journal *Educational Policy* (EP) published a special issue on education policy implementation in 2015 (Young & Lewis, 2015). Building on Honig's book—*New Directions in Education Policy Implementation*—published in 2006, this EP special issue is a more recent collection of some cutting-edge studies in education policy implementation. The ten articles included in this special issue used some of the perspectives that were reviewed in Honig's book. For instance, in their study of four school principals' experiences in education reform, Wert and Brewer (2015) used a socio-political perspective and re-conceptualized local policy actor's work as lived experiences of politics. In another study, Carraway and Young (2015) used the sensemaking perspective to investigate the implementation of a program designed to help principals become effective instructional leaders. This research found that what the school principals constructed through sensemaking, such as identity as an instructional leader and positive feelings about the program, shaped how the reform ideas were implemented.

In short, Honig's (2006) book synthesized a variety of perspectives for understanding education policy implementation, and the 2015 EP special issue showed that these perspectives continued to guide studies to explore, with different foci, the interplay between people, policy, and place in education reforms.

Why I Choose the Sensemaking Perspective

Policy implementation needs people. Policy implementation cannot be accomplished without people. How people receive, make sense, represent, and act on policies is especially important to the implementation process and outcomes (Spillane et al., 2002). Many previous

studies have recognized the agency of people in policy implementation, but how people can realize their agency, and how much agency they can have are still insufficiently known especially in contexts that are less individually-oriented, such as China. The sensemaking perspective highlights the central role of policy actors in education reforms, and thus it is helpful for studying the influence that policy actors have on teacher workforce reforms in China.

Another reason for choosing the sensemaking perspective is for developing this perspective itself. The sensemaking perspective was primarily developed by U.S. scholars in the U.S. context. It is not until recently that this perspective was used in other national contexts, such as Indonesia (Syahril, 2016), Japan (Glasgow, 2016), and South Korea (Cha & Ham, 2012). By using this perspective in China, this study can build on this emerging line of cross-national uses of the sensemaking perspective, help identify its strengths and limitations for understanding policy implementation in various national contexts, and in return refine this perspective to be more inclusive and useful.

Conceptualizing Policy Implementation through the Sensemaking Perspective

Drawing on Spillane and colleagues' (2002) work on sensemaking and policy implementation, I developed a conceptual framework (Figure 6) for studying teacher policy implementation. In general, this framework conceptualizes policy actors' sense-making into three interconnected components: inputs, process, and outputs. In this section, I first define the key term "actor" and state two assumptions underlying this framework. Then, I elaborate on what I mean by inputs, process, and outputs. Finally, I discuss several caveats associated with the framework.

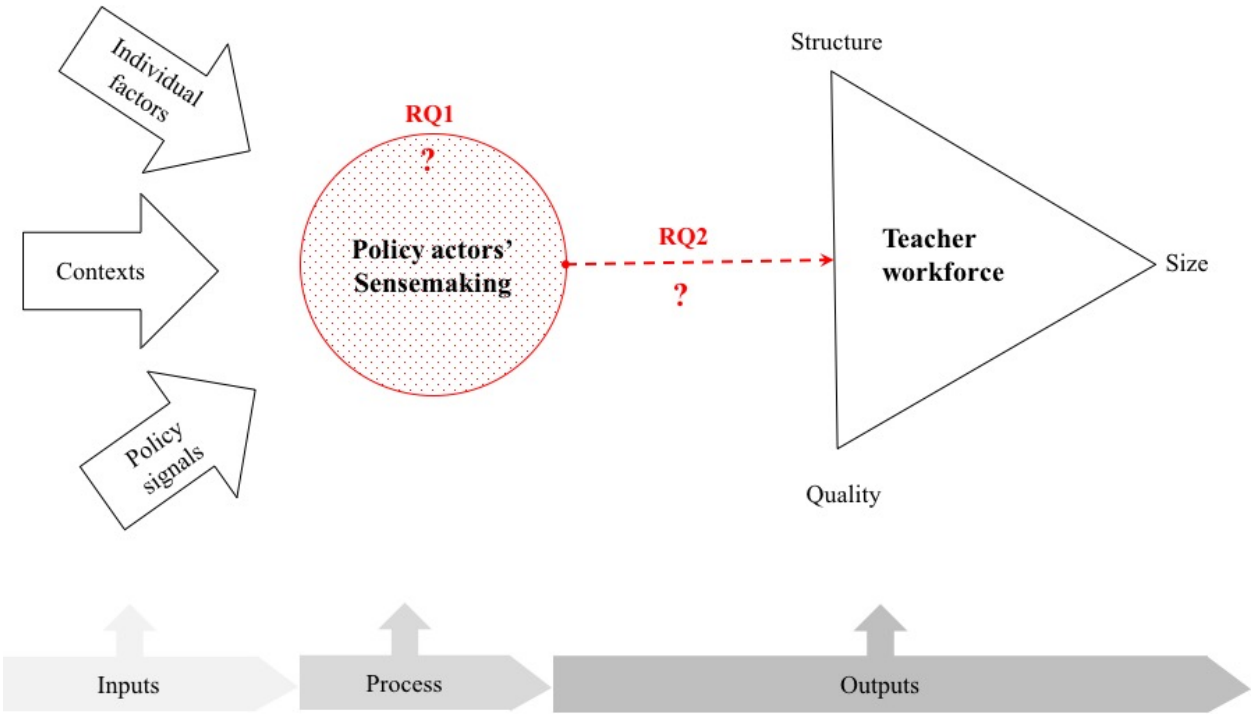


Figure 6. Conceptual framework

Notes:
a. This framework is adapted from Spillane et al.'s sensemkaing model for studying policy implementation (2002);
b. RQ1 = Research Question 1; RQ2 = Research Question 2. RQ1 asks about the process of how policy actors make sense of teacher policies. RQ2 concerns the relationship between sensemaking and the targeted teacher workforce. More information about the two research questions can be found at the end of this chapter.

Key Terms and Assumptions

"Policy implementing actor" is a key term in this study. I use this term to refer to people who actively make sense of, implement, and influence a policy. Policy implementing actors can be government officials, school administrators, and school teachers. My framework rests on two assumptions. First, policy, place, and people all can influence how and how well a policy is implemented (Honig, 2006), but I assume people play the dominant role. I acknowledge policy-related factors (e.g., the incentives provided by a policy) and place-related factors (e.g., the socio-political climate of a context) do have certain impact on policy implementation process and outcomes, but the impact could not be realized until implementing actors translate them into their implementing behavior (O'Laughlin & Lindle, 2015; Spillane et al., 2006). Second, policy

implementing actors' behaviors are significantly influenced by how they make sense of the policy they implement. As Weick and his colleagues (2005) pointed out, people's sense-making is a micro-level action which is subtle, small, relational, oral, particular, and momentary. However, smallness does not equate with insignificance. Instead, people's sense-making has large consequences on people's behavior. People use small moments of sense-making to deal with ambiguity, search for meaning, settle for plausibility and finally take actions (p. 410, 419).

Major Components

My framework consists of three major components. They focus on the inputs, process, and outputs of implementing actors' sensemaking of a policy.

Inputs: "Inputs" are factors that influence how actors make sense of and act on a policy. Spillane et al. (2002) have extensively discussed such factors. They first argued that a set of individual-level factors, such as actors' prior knowledge, experiences, beliefs, values, and emotions, is consequential to actors' sensemaking process. I agree with Spillane on this point and consider these factors "individual factors."

Also, drawing on the work in sociology and social psychology, Spillane et al. noticed that multiple layers of the policy implementation contexts could also shape policy actors' sensemaking. They are considered in my framework as another input. Prior studies on policy implementation in China suggest that the institutional and socio-political contexts are powerful in shaping the implementation process and outcomes (Xue & Yang, 2014; Shao, 2010; Tan, 2008), so I paid particular attention to these two layers of contexts throughout the research process.

"Policy signals" are a third "input" that prior studies, as well as Spillane et al.'s framework, have pointed out can influence implementing actors' minds and actions. For

instance, Weiss (1999) suggested that each policy usually signals three kinds of information: incentives, authority, and ideas. Incentive signal refers to the information about the direct or indirect sanctions or inducements adopted by a policy for altering the behaviors of the target individuals. Authority signal is about the power and accountability relationships among different players for implementing a policy. Idea signal refers to the information about the means of persuasion, such as persuasive messages, facts, cognitive frames, social or professional norms, rhetoric, symbols, ideology, arguments, deliberation, learning, and passions (pp.51-52). Thus, the third set of inputs in my conceptual framework are signals loaded in a policy, how the signals are represented, and in what ways they are disseminated to implementing actors.

Process: the process of how implementing actors draw on various sources of inputs to make sense of a policy is the central focus of my framework. Spillane et al. (2002) have generated assumptions about several relationships between the "inputs" and "outputs" of policy actors' sensemaking of a policy. For instance, Spillane and colleagues assumed that "people are biased towards interpretations consistent with their prior beliefs and values," (p.401). These assertions directly connect an input (e.g., actors' prior beliefs and values) to an output (e.g., biased interpretation), but do not explicate the details about implementing actors' sense-making process and what features that process has with empirical evidence.

Some scholars in organizational studies have attempted to characterize how sensemaking was accomplished. For instance, Weick and colleagues (2005) argued that sensemaking often started with noticing something unfamiliar, developed by the sense-makers using the familiar to regularize the unfamiliar, and formulating action plans for the future. However, these arguments are mainly theoretical speculations and lack empirical evidence. In their recent review of sensemaking literature, Maitlis and Christianson (2014) pointed out that it was methodologically

challenging to capture the process of sensemaking, and they called for more empirical evidence to refine the speculative ideas proposed by previous scholars. Therefore, in this study, with some loosely framed ideas about the sensemaking process (e.g., sensemaking is triggered by cues), one of this study's focuses is to unpack the complex process of how policy actors accomplish sensemaking.

Outputs: in this conceptual framework, outputs refer to the things that sensemaking produces. Maitlis et al. (2014) summarized the things that sensemaking could accomplish. These include strategic change, learning, and creativity and innovation. While these things can reflect the general goals that sense-makers across different fields and in different contexts may aim to achieve, they are too generic to reflect the particular types of outputs that teacher workforce reforms often aim to produce.

As introduced in Chapter 1, teacher workforce reforms are primarily targeted at three aspects of a teacher workforce: size, quality, and structure. Thus, teacher policies are often used to produce certain kinds of changes in the size, quality, and/or structure of the targeted teacher workforce. Thus, in my conceptual framework, outputs refer to the changes in the targeted teacher workforces.

In order to find out the relationships between sensemaking and changes in the targeted teacher workforce, a series of logical links needs to be carefully examined before making valid conclusions. However, many previous studies linked sensemaking with policy impact without examining the many and complex links lying between these two. Some other studies focused on the changes in policy actors only (e.g., whether policy actors make sense of things or not), and failed to examine the greater influence that sensemaking could have on the targeted teacher workforce. To address these limitations, my conceptual framework views changes in the targeted

teacher workforce as the ultimate output. This framework posits that policy implementing actors' sensemaking and teacher workforce improvement are linked, but how strong and in what ways they are linked are still unknown and need to be examined contextually.

Caveats

I need to make several caveats about this framework. First, the "inputs-process-outputs" conceptualization is not intended to suggest that implementing actors' sensemaking is a linear process. Instead, I argue implementing actors' thinking and doing are simultaneously occurring and are constantly interacting with and shaped by the institutional and socio-political contexts they are situated. Second, the loosely framed ideas about the sensemaking process should not be viewed as a fixed set of activities occurring in actors' sensemaking. Instead, they are just working assumptions for examining the complexities in policy implementing actors' sensemaking activities. Third, this framework mainly conceptualizes individual policy actor's sensemaking process. How policy actors collectively make senses of their implementation work may follow the similar patterns as elaborated above, but that process should be of greater or different complexities. To address those complexities, when collecting and analyzing the "inputs" data, I paid particular attention to the interactions among individuals. I also investigated how interactions among different policy implementing actors influence the individual actor's sensemaking, and how different actors formed and shaped collective sensemaking.

Research Questions

This study is concerned with the problems about teacher policy and teacher workforce reform in China. So far, I have also chosen the sensemaking perspective to guide this study. Based on these early decisions I made, I asked the following research question:

From a sense-making perspective, how do policy implementing actors influence the implementation process and outputs of teacher policies?

As highlighted in the descriptions of the conceptual framework, two parts of the framework are critical for understanding teacher workforce reforms, but the existing literature has not yet sufficiently studied these. One part is the process of how policy implementing actors make sense of teacher policies. The other part is the relationship between policy actors' sensemaking and the ultimate impact of teacher policies on targeted teacher workforces. Therefore, the overarching research question can be broken down into two specific research questions:

1. **How do policy implementing actors make sense of teacher policies?**
2. **How does policy actors' sensemaking influence the size, quality, and structure of the targeted teacher workforce?**

In the next chapter, I discuss how a qualitative case study approach is methodologically appropriate for investigating these research questions. I also introduce detailed information about the research methodology and methods used in this study.

CHAPTER 3

METHODOLOGY: A CASE STUDY

The topic of this study is how to use teacher policy to improve teacher workforces. Guided by the sensemaking perspective, I ask, how do policy implementing actors shape the implementation process and outcomes of teacher policies. In this chapter, I first introduce the qualitative case study approach I select, and explain why this research methodology is appropriate for studying my research questions. Then, I explain what the case is and how I made a series of decisions to select this case. Third, I introduce a pilot study I conducted before the field work, how the pilot study led to the actual fieldwork, what data I collected and how I collected, and how I analyzed them. Finally, I reflected on how my positionality might have influenced the research findings.

Overarching Research Design: A Case Study

This study chose qualitative case study as the research methodology for two reasons. First, case study methodologically matches the research questions asked in this study. As argued by several case study methodologists (e.g., Yin, 2014), case study is particularly useful in investigating "how" and "why" questions concerning the phenomenon of interest. This study is aimed to understand a complex social phenomenon in policy implementation: *how* policy actors make sense of teacher policies, and *why*. Therefore, case study is arguably an appropriate methodology for this work.

Second, case study has been widely and well applied in many previous sensemaking studies (e.g., Allen & Penuel, 2015; März & Kelchtermans, 2013). After the initial stage of theoretical development, the sensemaking research field has been drawing on a wide range of research methodologies. As a result, case study, along with several other methodological

approaches (e.g., ethnography, textual analysis, mathematical modelling, and social network analysis) have been used in different research projects. Among all these methodologies and methods, case study is one of the most often used approaches. As Maitlis and Christinason (2014) pointed out in their recent review of the sensemaking literature, "Single-case studies feature prominently in the sensemaking literature, in part because this research design is well suited for studying both everyday and extreme examples of sensemaking (Yin, 2002)" (p. 106). Because China is a relatively new context for studying sensemaking in education policy implementation, I believe using case study, a well-established methodology in the research field, can help assure the methodological rigorousness of this study.

Many scholars have already defined what case study is, but the definitions provided by Robert Yin, Robert Stake, and Sharan Merriam may be the ones used most often in the literature (Yazan, 2015). Yin (2002) defines case study as an empirical inquiry that investigates a case or cases about "how" and "why" questions concerning the phenomenon of interest. In Stake's (1995) definition, case study is "a study of the particularity and complexity of a single case, coming to understand its activity within important circumstances" (p. xi). Merriam (1998) defines case study as "an intensive, holistic description and analysis of a bounded phenomenon such as a program, an institution, a person, a process, or a social unit" (p. xiii). Although these definitions suggest nuanced epistemic orientations, they all refer to a qualitative research methodology that focuses on understanding a thing—it can be a person, a program, a group, a policy, or a phenomenon—in broader circumstances in which the thing is situated (Yazan, 2015).

Selecting the Case

Stake (1995) defines a case as "a specific, a complex, functioning thing," more specifically an integrated system which has a boundary and working parts and purposive (p. 2).

In Merriam's (1998) language, case is "a thing, a single entity, a unit around which there are boundaries" (p. 27). Yin (2002) considered case as "a contemporary phenomenon within its real-life context" (p. 13). These definitions suggest that "case" may refer to different things in different studies, but each case has two essential elements: the "thing" (e.g., a person, a program, or a place), and the boundaries (e.g., time frame, institutional boundary).

Particularly in this study, the "thing" is sensemaking, a type of activity conducted by policy actors. The boundaries that contextualize sensemaking are the *policies* to be implemented, the *places* where the implementation takes place, and the *time* when the implementation occurs. Therefore, selecting the case entails the specifications of who, which policies, where, and what time span to investigate. Figure 7 provides a visual representation of the case that I selected for studying policy actors' sensemaking.

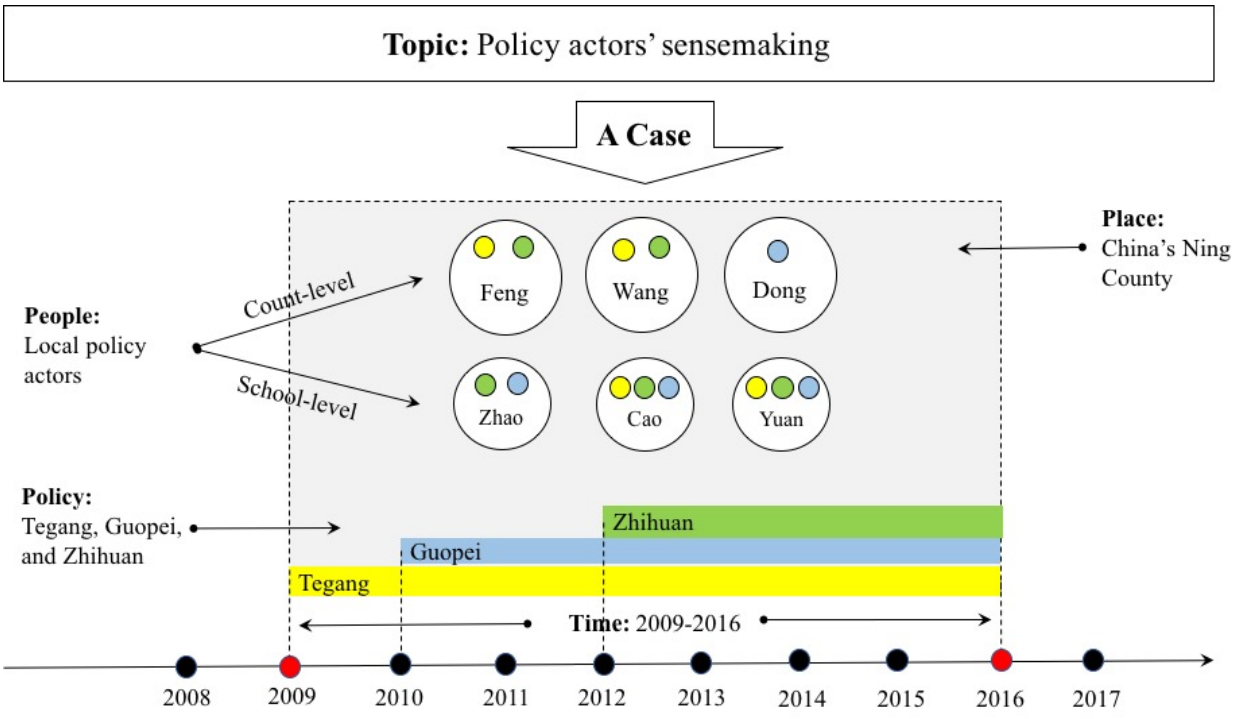


Figure 7. Visualization of the case

Notes: The color in the circles represents which policy the participant participated in the implementation of it. For instance, in Feng's circle there are two colors: yellow and green. These colors indicate that Feng was involved in the implementation of *Tegang* (yellow) and *Zhihuan* (green).

In brief, the case is composed of six policy actors (the "thing" or the sensemaking of people) implementing three teacher policies (the policy) in China's Ning County (the place) during 2009 and 2016 (the time span). Below, I elaborate on how I made each of the specification decisions by considering my research questions, the literature, and practicality.

Selecting the Place: Ning County in China

This study took place in China's Ning County (pseudonym). Ning County (宁县), or roughly translated as the "county of serenity," is one of the 1,397 counties in China as of 2015 (National Bureau of Statistics of China, 2017). As implied by its name, Ning resides in a peaceful and remote mountainous region in Shanxi Province (山西) of China. Its southern border is several miles from China's Mother River—the Yellow River. Nurtured by the Yellow River, Ning is one of the oldest counties in China, with a history of human activities and cultivation for more than 2,700 years. However, Ning's economy had not transformed from the traditional agriculture-dominated model to an industry-driven economy until recent decades. Since the late 1970s, Ning's economy experienced an unprecedented development because of its abundant coal resources and the supportive economic policies and environment. Because of the improved material conditions, Ning's population and school system have significantly expanded as well. In 2015, its population reached 230,000, and a total of 2,759 teachers were educating 26,300 students in 132 elementary and secondary schools in Ning (Table 2).

Table 2. Numbers of schools, teachers, and students in Ning County (2015)

Level	School	Teacher	Student
Elementary School (Kindergarten to Grade 6)	115	1,496	16,913
Middle School (Grade 7-9)	15	780	8,015
Secondary School (Grade 7-12)	2	483	1,372
Total	**132**	**2,759**	**26,300**

Data source: *The Educational History of Ning County (2016)*, internal materials of The Education Bureau of Ning County, Shanxi.

Nevertheless, due to its challenging geographical circumstances and poor transportation conditions, Ning's educational resources and quality are significantly lagging behind those in well-developed urban areas, such as Taiyuan (the capital city of Shanxi), not to mention the first-tier cities in China, such as Beijing or Shanghai. Thus, the Chinese government has enacted and implemented a set of social policies (including several teacher policies) to promote more balanced development between the traditionally underdeveloped rural regions, such as Ning, and the fast-growing metropolitan areas (Ahlers & Schubert, 2015).

China and its Ning County were selected as the research site for two reasons. First, China offers a compelling national context for studying the role of policy implementing actors in teacher workforce reform. As introduced in Chapter 1, China is using a bundle of ambitious teacher policies to tackle the problems in its teacher workforce. Some have led to positive impact on the teacher workforce while some others have not. The variety of China's policy approaches to tackling teacher workforce issues provides an opportunity to compare and contrast different policy approaches to reforming a teacher workforce. Furthermore, compared to many Western countries such as United States, United Kingdom, and Australia, China's social and political discourses are more collectively-oriented (Chen, 1999; Kim, Triandis, Kâğitçibaşi, Choi, & Yoon, 1994). In other words, individual people are often expected to subordinate to the interests of the collective entities to which they belong. China's education governance system is relatively hierarchical (Zhou, 2014, 2013). The lower level people work at in the system, the less power, resource, or room they have to do work in their own ways. These contextual factors have led to the fact that China's policy studies have insufficiently focused on individual policy actors working on the ground (e.g., He & Kong, 2011). In theory, China's collectivist culture and hierarchical governance system should have made policies smoothly and coherently

implemented from Beijing to local places. But in reality, the policy-practice divides pervasively exist in educational and social reforms in China (Li R., 2012). While previous studies have investigated this phenomenon through institutional, political, and socio-cultural lenses (e.g., Ahlers & Schubert, 2015; Li R., 2012; O'Brien & Li, 1999), few studies have examined this phenomenon from a sensemaking perspective. Studies of how China's local policy actors make sense of their implementation work experience are scant in the existing literature. However, sensemaking is important and useful for understanding the gap between policy and practice in China because, ultimately speaking, policy implementation is guided by the meanings policy actors construct throughout sensemaking (Werts & Brewer, 2015).

Second, Ning County stood out as an ideal site for this study because Ning is a typical challenging context, one targeted by China's policymakers, and Ning' government officials were willing to participate in this study. The focus of this study is sensemaking. While people consciously or unconsciously make sense of everyday life events, they often feel greater need to make sense of policy and are more conscious of this need when they are in urgent situations, such as being affected by a natural disaster, experiencing crises in inter-personal relationships, or experiencing an organizational failure (Maitlis & Sonenshein, 2010; Weick, 1988). Relatively speaking, it would be easier to capture the sensemaking activities of those who work in challenging or reform contexts. In the United States and some other countries, the term "challenging schooling contexts" often refers to the schools located in urban regions (Anyon, 2014). But in China, challenging schools are mainly located in geographically harsh and economically under-underdeveloped rural areas. These areas face continuing challenge of recruiting and retaining quality teachers (Whyte, 2010; Hannum, 2003). Ning is one of those challenging contexts.

Of course, Ning has its unique characteristics that make it different from the other 1,396 counties in China in many ways, such as its unique "Er culture (鄂文化)." Ning cannot represent the other challenging counties because there are multiple ways of being "challenged." While geographical or economic reasons primarily challenge some counties (such as Ning), some other counties are mainly facing socio-cultural or political challenges. For instance, many local counties in China's autonomous regions/provinces of ethnic minorities (e.g., Tibet, Xinjiang, Inner Mongolia) are primarily challenged by how to preserve their own languages and cultures in the process of modernization (Yi, 2008). However, regardless of the specific factors behind their difficulties, Ning and other challenging counties share similar problems related to their teacher workforces: their schools are short of teachers; the quality of their schoolteachers cannot guarantee quality education for their kids, and a significant portion of teachers leave their schools after teaching there for only a few years. Thus, I hope my study of how Ning's policy actors use teacher policies to reform their teacher workforce can generate useful implications for other contexts facing similar teacher workforce problems.

Another important reason for selecting Ning was because Ning's government officials were open and supportive of this study from the beginning when I approached them. With the help of one professor at Beijing Normal University and another professor at Shanxi Normal University (SNU), I narrowed my selection of the place to be among fourteen counties in Shanxi Province that SNU serves. During my place selection process, I always considered the research purpose and scope, the likelihood of being allowed access to policy actors in the place selected, and the time and resources available to me. I consulted with an SNU professor who has over thirty years of experience studying education reforms in China and preparing teachers for a prefectural area in Shanxi Province. Drawing on this professor's familiarity with this research

topic and his knowledge about the local contexts in Shanxi, he recommended two countries—Ning and Hong—from the whole fourteen counties SNU primarily serves. Ning and Hong are the two most challenging counties among the fourteen counties, and they are carrying out several teacher policies to try to improve their teacher workforces. I then approached the local point persons in both counties with the help of the SNU professor. The point person in Hong agreed to arrange an interview with several policy actors, but he declined my request to carry out several months of fieldwork in his county because the staffs in their Education Bureau were busy preparing for an educational evaluation. However, the point person in Ning showed great support to my plan of doing a couple months of in-depth fieldwork in their schools, probably because he trusted the SNU professor who had been collaborating with him on internship placements for many years. The local official's support was critical to the success of this study because it influenced whether I could access the policy actors and their institutions, what forms of data I could generate, how many data I could collect, and how long I could stay in the field. Without Ning's government official's support, I could not have generated sufficient, quality data for answering my research questions. Therefore, I chose Ning County in China's Shanxi Province as the place for doing the fieldwork.

Selecting the Policies: *Tegang*, *Guopei*, and *Zhihuan*

As previous studies found (e.g., Coburn, 2005; Spillane et al., 2002), policy signals can qualitatively shape how policy actors make sense of policy. Furthermore, the big problems this study aims to speak to are related to teacher workforces. Thus, I considered two criteria when selecting policies for this study: first, is the policy aimed to improve teacher workforces? Second, what policy signals, as reflected in its interventions, does it carry?

Table 3. Core information about the three teacher policies selected

Name	Intervention type	Key provisions	Implementation status in Ning (as of 2016)
Tegang (特岗计划, Special Teaching Position Program)	a. Alternative hiring b. Incentives	a. Lower recruitment criteria (e.g., education background) to recruit teachers to work in targeted hard-to-staff rural schools on a three-year contract. b. The national government pays for *Tegang* teachers' salaries for the first three years. c. After the third year, county governments should transfer the contracts of satisfactorily performing *Tegang* teachers to be tenured ones, and county governments should pay for *Tegang* teachers' salaries on their own starting from the fourth year.	a. Started in 2009 and each cycle lasts three years. b. The 1st cycle lasted from 2009 to 2012. c. The 2nd cycle started in 2016.
Guopei (国培计划, National Professional Development Program)	a. Professional development	Provide teachers with tailored, diverse, and sustained professional development opportunities.	a. Started in 2010 and each cycle lasts one year. b. Has completed 6 cycles from 2010 to 2015. c. The 7th cycle was ongoing in 2016
Zhihuan (城乡置换, Urban-Rural Teacher Exchange Program)	a. Teaching place adjustment (teacher exchange) b. Incentives	a. 10% of urban and rural school teachers are reassigned in an exchange of teaching positions for three years. b. All teachers receive transportation subsidies. c. Urban teachers who participate in the exchange program will be prioritized in professional promotion and rewards.	a. Started in 2012 and each cycle lasts one year. b. Has completed 3 cycles from 2012 to 2015. c. The 4th cycle started in 2016.

Chapter 1 introduced the five teacher policies that the Chinese government is currently using to reform China's teacher workforce. Ning had been implementing three of them by the time I collected the data in 2016. These were *Tegang* (i.e., The Special Teaching Position Program, STP), *Guopei* (i.e., The National Professional Development Program, NPD), and *Zhihuan* (i.e., The Urban-Rural Teacher Exchange Program, URE). Table 3 provides an overview of the core ideas of the three policies. These interventions convey different policy signals to local policy actors, which can enable me to analyze how various signals may influence sensemaking. Below, I introduce each of the three policies in greater detail.

Tegang is the first policy selected for investigation. *Tegang* primarily is an alternative hiring policy developed in China. Alternative hiring policies are designed to enhance the supply of teachers. By reducing barriers caused by some core elements of standard teacher hiring practices, for example, lowering the minimum requirements of applicants' qualifications, policy advocates argue that more teachers can be brought into the workforce and especially into hard-to-staff areas (Chudgar et al., 2014). Typical examples of such policies include the Teach For All programs located in forty-five countries (e.g., Teach For America in the U.S.), and the contractual teacher programs that many developing countries have frequently used (UNESCO, 2015).

Similar to other alternative hiring policies, *Tegang* uses deregulation as the primary policy intervention (and signal) in order to enhance the teacher workforce in China's most under-resourced rural schools. *Tegang* regulates that people with a bachelor's degree or above, regardless whether the degree is in teaching or not, are eligible to apply for the specially designated teaching positions in targeted rural schools. What differs from other alternative hiring policies is that *Tegang* uses an approach I call "fixed-term now, tenure later" to hire teachers.

Tegang teachers initially work on a three-year fixed term contract. During this period, the central government pays for *Tegang* teachers' salaries. County governments are responsible for evaluating the performance of *Tegang* teachers. By the end of the third year, teachers who perform satisfactorily are eligible for renewing their contracts and becoming tenured teachers. From the beginning of the fourth year, county governments become fully responsible for paying for tenured *Tegang* teachers' salaries (Ministry of Education of China, 2006).

Guopei is the second policy selected. While *Tegang* focuses on the number of teachers, *Guopei* is aimed to enhance the quality of rural teachers through providing them with professional development (PD) opportunities. Professional development (PD) can be a powerful intervention for supporting teachers' continuous growth and enhancing the quality of their teaching (Avalos, 2011; Borko, 2004). PD is particularly pivotal for improving the quality of practicing teachers in the rural teacher workforce. In the first three years of its implementation (2010-2012), *Guopei* targeted both urban and rural schoolteachers. However, starting from 2013, the central government deliberately directed this policy exclusively towards teachers in rural regions to narrow the disparity between urban and rural teacher quality (Ministry of Education of China, 2015b). In terms of content, *Guopei* provides diverse, tailored, and sustained PD opportunities to in-service rural school teachers. Typical *Guopei* programs include several days of intensive face-to-face training on relevant topics (e.g., use of technology in teaching), semester-long online training, and one-year-long off-job professional learning in normal universities or colleges (Ministry of Education of China, 2010a).

Zhihuan is the third policy selected. Compared to the first two policies, *Zhihuan* takes the most radical intervention for reforming teacher workforces: teacher exchange. The core idea of *Zhihuan* is to facilitate the exchange of teachers between urban and rural schools to equalize

students' access to quality teachers. This policy comes along with both material incentives (e.g., transportation subsidy) and non-material incentives (e.g., professional award, the advantage of being promoted early) to motivate teachers to be willing to change workplaces.

To sum up, I selected *Tegang*, *Guopei*, and *Zhihuan* not only because they are the primary policy approaches that the Chinese government is taking to improve the teacher workforce in its underdeveloped rural regions such as Ning County, but also because they represent a variety of policy interventions. The various policy signals carried by the three policies allowed me to investigate how different policy signals might have shaped policy actors' sensemaking activities.

Selecting the People: Six Policy Actors with Diverse Backgrounds

To try to make the research findings relevant to the diverse population of policy actors working in different contexts, I used Patton's (2002) maximum variation sampling—picking a wide range of variation in dimensions of interest—to select the participants for this study. As a result, I recruited six policy actors with varied backgrounds in terms of gender, work experience, and institutional role, aspects that research suggests can be consequential to sensemaking (Grisoni & Beeby, 2007; Weick et al., 2005; Spillane et al., 2002). Table 4 provides a brief summary of the participants' backgrounds.

The six participants are respectively Feng, Wang, Dong, Zhao, Yuan, and Cao (all pseudonyms). Cao is female, and the other five actors are male. Their teaching experiences range from 7 to 25 years, whereas their years of experience as administrators range from 6 to 24 years. Their institutional roles vary as well. Feng, Wang, and Dong work as officials at the Education Bureau of Ning County (similar to the school district office in the United States). Zhao, Yuan, and Cao are, respectively, the principal of a secondary school (grade 7-12) located in Ning's

county seat, a middle school (grades 7-9) in a township, and an elementary school (grades K-6) in a small rural village.

Table 4. Participants' backgrounds

	Gender	Experience (years)		Institutional roles	Policies involved		
		Teaching	Admin		*Tegang*	*Guopei*	*Zhihuan*
Feng	M	15	20	*Director*, Teacher Affairs Office	X		X
Wang	M	11	6	*Vice Director*, Teacher Affairs Office	X		X
Dong	M	7	24	*Director*, Adult Education Office		X	
Zhao	M	11	18	*Principal*, County Seat Secondary School		X	X
Yuan	M	25	7	*Principal*, Township Middle School	X	X	X
Cao	F	16	15	*Principal*, Village Elementary School	X	X	X

The participants' different institutional roles make them responsible for different policy implementation tasks. At the county level, Dong is in charge of implementing *Guopei* (the professional development policy), while Feng and Wang jointly take the lead of implementing the other two policies (i.e., *Tegang* and *Zhihuan*). At the school level, the principals implement all three policies in their respective schools with one exception: Zhao's school did not implement *Tegang* since Zhao's school, which is located in the well-developed county seat, does not qualify for receiving *Tegang* teachers. Below I introduce each participant's background.

Feng. Feng started to direct the Teacher Affairs Office in Education Bureau of Ning County in 2010. This office functions as a hub of administering the county's teacher-related affairs, such as recruiting new teachers, managing existing teachers' salaries and benefits, and selecting teachers for professional promotions. Thus, it is Feng and his office leading the implementation of the alternative hiring policy (*Tegang*) and the urban-rural exchange policy (*Zhihuan*). Before he joined this office, Feng taught Chemistry in a rural middle school, served as the principal of a primary school in the county seat, and directed another office in the Education Bureau, which together constitute his 35 years of experiences in teaching and school administration. Also, Feng grew up in an impoverished rural family and worked as a peasant for three years during the Cultural Revolution in 1970s. Thus, based on his life and work

experiences, Feng is one of the most knowledgeable persons about Ning's overall teaching force and the challenges and needs of Ning's rural schools. Feng said, as a son of poor peasants he was dedicated to improving rural education in Ning through the effective implementation of teacher policies.

Wang. Wang works in the Teacher Affairs Office as well. He is the direct subordinate and co-worker of Feng. However, unlike Feng's role of making policy-related decisions, Wang's primary duty is to execute the directions that Feng gives him. Thus, Wang has more direct experience of working with schools with regard to implementing policies. Wang said, when he was little his friends and relatives living in rural areas called him "city boy" because he was born to an affluent family in the county seat. After he graduated from a local teachers' college in 1999, he went on to teach in one of Ning's remotest rural elementary school for three years. Then, by taking advantage of the "*Guanxi* (or social capital)" his family had with a few important government officials, he became the principal of another rural school in 2002 and finally joined the Teacher Affairs Office at the Education Bureau in 2010. Coming from a privileged family, Wang tends to justify the social and educational inequities in Ning in some way and demonstrates much less commitment to enhancing rural teacher quality than Feng does.

Dong. Dong is the third county-level policy actor. Dong has directed another Office—the Adult Education Office—in the Education Bureau since 2010. Before the 2000s, the primary task of this office was to eliminate illiteracy. With two decades of efforts, the literacy rate of Ning's population had reached 90%. Thus, starting from 2010, the Adult Education Office began to focus on the continuous education of a particular group of adults—teachers. As a result, in 2010 when the *Guopei* policy was coming down to Ning from Beijing, it was immediately assigned to Dong's office for implementation. Similar to Feng, Dong grew up in a rural family. He started

his career in education teaching Chinese in a middle school in the county seat in 1985. He stayed in that position for seven years. After that, he went on to be the principal of a primary school in the county seat, took charge of a branch of the Education Bureau in a township, and finally came to direct the Adult Education Office in 2010.

Zhao. Zhao is the principal of the County Seat Secondary School (abbreviated as County Secondary hereafter). 1,616 students enrolled in County Secondary in 2016. County Secondary has two sectors: a middle school sector (Grades 7-9) and a high school sector (Grades 10-12). Both sectors participated in the implementation of *Guopei* because *Guopei* targets teachers from Kindergarten to Grade 12. But only the middle school sector took part in the *Zhihuan* program, because no high schools were located in Ning's rural areas, and thus there were no schools that County Secondary can exchange teachers with. Neither section implemented *Tegang* because this policy targets schools located in underdeveloped rural areas, and the Secondary School is located in Ning's well-developed county seat. As a principal, Zhao takes full charge of how *Guopei* and *Zhihuan* are carried out in his school. Zhao had eleven years of teaching experience in a vocational school from 1987 to 1998. Zhao said because of his outstanding teaching performance, the Education Bureau promoted him to be Principal of County Secondary where he had worked for over eighteen years. Zhao attributed his early years of successful teaching to his continuous development of instructional quality through doing research and reflection. Thus, after he became a school leader, Zhao always stresses the importance of continuous learning to his teachers. He also works hard to seek as many opportunities as possible to promote his teachers' professional growth.

Yuan. The second school-level policy actor is Yuan, Principal of the Township Middle School (shortened as Township Middle). A total of 737 students attended this school in 2016. As

a rural school located in a small township in Ning's southern corner, it is targeted by all three teacher policies studied. Yuan directs the implementation of the three teacher policies in Township Middle. Before Yuan came to this school in 2012, he served as the principal of another middle school from 2009 to 2012. In addition to school administration, Yuan also has 25 years of experience teaching Chinese in a middle school in the county seat.

Cao. The third school principal participant is Cao. Similar to Yuan, Cao works in a rural area. Cao's school, the Village Elementary School (simplified as Village Elementary), is located in a remote village adjacent to the Yellow River. Village Elementary is a small school with 48 students. Due to China's recent rapid urbanization, many rural residents have migrated to better-developed urban areas. As a result, the student population in rural areas has been declining drastically. The student population of Village Elementary has shrunk in the past few years. Policies such as *Guopei*, *Tegang*, and *Zhihuan* especially hope to target schools like Village Elementary because these schools face the greatest challenges in recruiting and retaining quality teachers. Cao grew up in the village where the school is located. She started teaching in this school in 1985, and became the principal of it in 2001. She witnesses how the socio-economic changes have gradually squeezed this school from a large learning community with hundreds of students in 1980s to its present small size. Nevertheless, the small village and the school means a lot to Cao, personally and professionally. Cao also says she is dedicated to serving the kids in her community until this school disappears.

In short, using maximum variation sampling, I selected six local policy actors with diverse backgrounds as my research participants. These participants cannot represent all the policy actors working in Ning County or other contexts. However, the considerable variations in their gender, work experience, and institutional roles can allow me to explore how personal

backgrounds influence sensemaking. Furthermore, their experiences could be particularly informative to other policy actors who share similar backgrounds with them.

Selecting the Time: 2009 to 2016

Policy literature (e.g., Howlett, Ramesh, & Perl, 2003) suggests that each policy goes through its cycle. Policy cycles can range from months to decades. Each policy cycle is coupled with policy actors' sensemaking from the beginning to the end (Spillane et al., 2002). Furthermore, policymakers may approach sensemaking differently at different time points of a policy cycle. For instance, policy actors would need to take more efforts to make sense of a new policy than for an old one that they have been familiar with. Also, how policy actors make sense of a policy for grasping the core policy ideas may be different for convincing others to collaborate for implementation. Therefore, to capture the complexity in sensemaking and how the ways of sensemaking transform over time, it is necessary to include at least one full implementation cycle of each of the three policies selected.

As illustrated in Figure 7, I chose to focus on the participants' sensemaking experiences during 2009 and 2016. This time span covers at least one full implementation cycle of each of the three policies selected. The first time that Ning County participated in implementing *Tegang* was 2009. This cycle of implementation lasted three years until 2012. When I was collecting data in 2016, Ning had just started the second cycle of implementing this policy. As for *Guopei*, the first cycle of implementation in Ning County was in 2010, and each cycle lasts one year. Until 2016, Ning County had implemented *Guopei* for six full cycles, respectively in 2010, 2011, 2012, 2013, 2014, and 2015. Starting from 2012, Ning County has been implementing the *Zhihuan* policy each year. Therefore, until 2016, this policy had been implemented for four full cycles respectively in 2012, 2013, 2014, and 2015.

By focusing on the period from 2009 to 2016, I was able to investigate how the sensemaking of the participating policy actors transformed during different phases of implementation in one cycle and across different cycles. Since the data were generated in the summer of 2016 instead of when implementation was happening in real time, the data collected is retrospective in nature. Retrospective data have several limitations. For instance, people's memories of past events become inaccurate with time goes on (Bernard, Killworth, Kronenfeld, & Sailer, 1984). Also, people may edit their accounts of historical events for multiple reasons (e.g., portraying a better version of self, tweaking the information to manage risks) (Furnham, 1986). I took several measures to minimize these limitations during my data collection process, and I discuss those measures in the next sections.

Pilot Fieldwork

Few empirical studies have investigated policy actors' sensemaking in China. To surface the potential methodological challenges and address them before I commenced the fieldwork in Ning County, I did one week of pilot fieldwork in a county called Grass County (pseudonym) in Hebei Province of China. Grass County is similar to Ning in several ways, such as geographic location (both in underdeveloped rural regions), economic development (both below the average development level in their respective provinces), and educational challenges (both have difficulties in recruiting and retaining quality teachers). These similarities make Grass County a good simulation of Ning County.

During the pilot fieldwork, I interviewed two policy actors who were implementing the same three policies in Grass County. One is Mr. Gao, the Vice Director of Grass County's Education Bureau. He directs the implementation of teacher policies in Grass County. Gao's institutional role is equivalent to the three county-level policy actors in Ning County. The other

participant of the pilot study is Mr. Wu, the principal of a rural primary school in Grass County. Similar to the three school principals' in Ning County, Wu is responsible for carrying out teacher policies in his school.

Guided by an initial version of my interview protocols, I conducted a two-hour interview with Gao and Wu respectively. The interviews covered several topics, including their personal and professional experiences, how they perceived the teacher policies they were implementing, and what actions they took to implement those policies. The pilot interviews surfaced two issues in my original fieldwork plan. First, I had initially planned to tape-record interviews, but Gao insisted that the interview not be tape-recorded. Gao explained that he might carelessly say something inappropriate (e.g., criticizing the government or the leaders) which could cause him trouble due to the recently tightening socio-political atmosphere in China. Second, my wording of some interview questions sounded too academic or analytical to the interviewees. For instance, I asked Wu, "How did your previous experience as a rural teacher contribute to your interpretation of the *Tegang* policy?" Wu paused for a few seconds with a confused face and then started to talk about something irrelevant to this question. Wu's reaction suggested that my attempt to count on the interviewee to link his sensemaking of a policy to his prior experience was not successful.

To address these two issues, I adjusted my plan. First, I decided not to tape-record the interviews. My study did not hinge on linguistic discourse analysis of what the implementing actors say. Without the technology helping me remember everything, I developed several strategies to capture and record the core interview contents as accurately as possible. I practiced taking notes fast, requested the participants to repeat the keywords/phrases/sentences when

necessary, and organized my interview notes immediately after completing an interview when my memory was still fresh.

Second, I reworded my interview questions to have them better reflect the language of local policy actors. After redrafting my questions, I shared the revised interview questions with a schoolteacher and a government official. They both are the colleagues of the six research participants and thus are familiar with the ordinary language used by them. Based on these two "insiders'" feedback, I revised the interview questions, showed it to the consultants again, and then finalized the interview protocols. For instance, I broke the question aiming to probe the relationships between policy actor's work experience and his/her interpretation of policy into several simple but more concrete questions, such as "When did you know about *Tegang* for the first time?" "Did you work with any similar policy before?" "You said you were a *Daike* teacher before. How are *Tegang* teachers different from *Daike* teachers?"

Data Generation

I used three specific methods to generate data in Ning County from May to August in 2016. These are: interviewing participants, observing the participants in policy implementation and social events, and collecting documents related to policy implementation and outcomes. This study's two research questions focus respectively on the process and consequences of policy actors' sensemaking. Regarding the collection of data about sensemaking process, Maitlis and Chrsitinason (2014) conclude in their review of sensemaking literature that interview is an established method for generating rich qualitative data to illustrate the process of sensemaking (Maitlis, 2005). Interviews are especially useful for soliciting policy actors' accounts of the sensemaking process taking place in their brains which researchers cannot directly observe (Maitlis & Chrsitinason, 2014).

Sensemaking consists of both what people think and what people act (Rudolph, Morrison, & Carroll, 2009; Weick et al., 2005). Therefore, in addition to interviewing them, I also observed how the participants performed in implementation events and other occasions. The observational data are the first-hand accounts of the policy actors' sensemaking behaviors (Bechky, 2006).

Regarding generating data about the consequences of sensemaking, interview remains a useful method because it can solicit policy actors' accounts for how their sensemaking efforts have made things different (Maitlis & Chrsitinason, 2014). Sense-makers' views can largely validate the consequences on sense-makers' personal beliefs, but they are insufficient for validating behavioral changes or policy impact, because personal accounts could suffer from "response bias," which can make the response of the interview participants away from an accurate or truthful response (Furnham, 1986). Thus, I collected observational and textual data to validate what the policy actors said about the influences caused by their sensemaking efforts.

Using the three data collection methods as delineated above, I have collected a rich set of data that consists of fourteen interviews, seventy-two pages (single-spaced) of participatory observation notes, and thirty-five pieces of textual materials. Below I describe what these data are specifically about and how I generated/collected them.

Interview

I relied primarily on interview for generating data about the first research question regarding sesnemaking process because my approach allowed me to repeat formal and informal interviews with the key actors. My goal in interviewing was to learn the perspective of the actors in relation to the range of policies, to explore how different inputs shaped their sensemaking process, and how their sensemaking contributed to the policy impact on Ning's teacher workforce.

I interviewed each participant two to three times. In particular, the three county-level policy actors (Feng, Wang, and Dong) and County Secondary's principal Zhao were interviewed twice, while the two rural school principals (Yuan and Cao) were interviewed three times. The length of the interviews ranges from one to three hours. I originally expected to have two formal interviews with each of the participants, because based on my experience in the pilot study, the participants seemed to be more defensive and less willing to share their experiences in formal interviews than in casual conversations. But, I was able to schedule a third interview with the principals of the rural schools during my time there after they appeared candid and willing to share in the first two interviews.

Furthermore, I took two measures to address the issue that the participants might be defensive. First, I started the first interviews after I had interacted with the participants in multiple settings for a period of time, such as talking about the guest lectures I gave to their schools, dining together, talking a walk to the countryside as a post-dinner exercise that local residents often do together. By doing so, we had known each other to the level that could allow us to comfortably and candidly talk about their policy implementation experiences. Second, I initiated many informal conversations with each of these participants as a way to supplement the formal interviews. Many of those informal conversations were related to the topics of this research, such as their comments about the socio-political discourses, their perceptions of the ongoing education reforms, and their personal stories about both their lives and work. I took field notes every day, and thus in timely fashion I recorded the core ideas that the participants said during those informal interviews. The field notes about those informal conversations I had with the participants served as a supplementary source of data about the participants' sensemaking and policy implementation experiences.

The rounds of formal interviews served different purposes. In general, it was the participants driving the first interviews. I invited the participants to share their experiences with the three policies in as open-ended and detailed a way as possible. However, when necessary, I also asked follow-up questions to include their personal and professional backgrounds, implementation behaviors and outcomes, and their interpretations. Right after the interviews, I organized the field notes on my laptop and conducted initial coding and analysis of them according to my theoretical framework. Such analyses led to a list of preliminary findings and a few questions I wanted to ask the participants the next time.

The second interview served two purposes: first, to seek the participants' comments on the preliminary findings; second, to explore the nuances of the participants' sensemaking process and consequences. In particular, I used several broad questions to guide the conversations about the participants' construction of their implementation roles, how they developed specific implementing schemes, how they collaborated with other policy actors, and how they changed their ideas and actions. I reviewed and analyzed the interview notes right after each interview.

For the third interviews with Yuan and Cao, I did not prepare fixed questions ahead of time. Based on the findings drawn from the first two interviews, I crafted questions according to the dynamics of our conversations and probed more information and their experiences with these three policies. See Appendix A for the interview protocols used.

Observation

In addition to what the participants said about their experiences, I also used participatory observation (Spradley, 2016) to generate data from my perspective as a researcher (see Table 5).

Table 5. Observational data

Place	Events (occasions)

Education Bureau Office Building	Staff meetings on policy implementation (2) Informal conversations (3)
County Seat Secondary School	Teacher's speech contest (1) Conversations with students and teachers (3)
Township Middle School	Guest teaching (1) Classroom observation (3) Conversations with students and teachers (7)
Village Elementary School	Guest teaching (2) Classroom observation (2) Conversing with students and teachers (4)
Ning County	Conversations with local residents (multiple) Attending local socio-cultural events (4)

For each of the three county-level policy actors, I observed them and their implementation behaviors in their situated contexts for one week. Feng, Wang, and Dong all worked in the Office Building of Education Bureau. Since the building is the primary physical environment in which the three county-level policy actors work on a daily basis, I toured in this building on my own several times, observed and interpreted the banners, pictures, and organizational chart hung on the walls. In addition, I observed how the three actors interacted with their colleagues and visitors in this building. For instance, I had the opportunity to observe how Feng and Wang discussed the criteria for recruiting the *Tegang* teachers in 2016; I also witnessed how Feng lined up outside an office to get paperwork signed by the Head of Education Bureau. Finally, I also had meals and drinks with the three governmental officials separately and collectively several times. Those social interactions gave me additional opportunities to observe the participants' sensemaking in informal, relaxing, and personal circumstances.

Also, I conducted seven to ten days of participatory observation in the three schools selected. In each school, I lived in a teacher's dorm and ate in the school canteen. Immersing myself in the school contexts twenty-four hours per day, I seized the many opportunities to

observe the three principals' daily work in their schools. I intensively engaged myself into the school lives. For instance, I observed lessons, talked with teachers and students, participated in a teacher's speech contest, gave a lecture about American schools to three classes, and went out for BBQ with a group of schoolteachers. All these experiences allowed me to see the regular school lives as a citizen of the school communities.

In addition to interacting with people within the schools, I also participated in social and cultural events outside. For instance, I talked with different residents living in the local community and asked their opinions about teachers, education, and the society. I also watched TV programs and read newspapers to get a sense of what topics the mass media discussed. These observations helped me understand the local social context where the participants and their affiliated institutions were situated.

Textual Materials

Textual material is the third form of data I collected. A total of 35 documents (1,235 pages) were collected during the fieldwork (Table 6). The first document is a book published by the Education Bureau—*The Educational History of Ning County* (2016). This book provides the Bureau's narratives of the past and the present of Ning's education system, including many statistical data which I later used in this study. Second, I also collected from each school the information (in the format of a spreadsheet or a Microsoft Word document) about their teacher workforce as of 2016. These were existing documents that the schools used to report to superiors. Key variables in the datasets include teachers' educational attainment, teaching experience, subject and grade level they teach, and their professional title.

Third, I also obtained a set of documents about the three policies studied, such as the information about the teachers who participated in the *Zhihuan* programs from 2012 to 2015,

how the 2016 *Tegang* teachers were distributed among different schools, and teachers' reports of their experiences of participating in *Guopei* and *Zhihuan*. Though the primary objective of this study is *not* to evaluate the effectiveness of the three teacher policies, these textual materials together can shed light on the consequences of the participants' sensemaking on Ning's teacher workforce.

Table 6. Textual materials

No.	Description	Type	Pieces	Pages	Related to which policies
1	The Educational History of Ning County	Book	1	1,111	All three
2	Background information about the teachers in the three schools	Spreadsheet	3	5	All three
3	Information about the schools and teachers who participated in *Zhihuan* (2012-2015)	Spreadsheet	4	10	*Zhihuan*
4	*Zhihuan* participating teachers' essays about their experiences	Word	2	11	*Zhihuan*
5	Documents about policy implementation	Word	8	30	*Tegang*
6	*Guopei* participating teachers' essays about their experiences	Word	17	68	*Guopei*
Total			35	1,235	

Data Analysis

The data were analyzed by using qualitative content analysis (Hsieh & Shannon, 2005), which characterizes an iterative process of inductive and deductive coding, cross-unit analysis, and triangulating emerging assertions with multiple sources of data and external reviewers.

I first read through all the interview records to conduct inductive coding (Saldana, 2015). My readings led to several codes about the participants' sensemaking process, such as "referring to the policy documents," "representing their organizations," "counting on prior experiences,"

"pinpointing the specific problems and needs," "groping the stones to cross the river," among several others. In Appendix B I list all 16 codes that emerged from this step of analysis. Each of these codes conveys an idea about making sense of a policy that most participants mentioned in their interviews. I made an arbitrary decision when generating the codes: if an idea was shared by more than half of the participants, the idea was summarized and bracketed as a code. In fact, among the 16 codes, nine were mentioned by all six participants, two by five participants, four by four participants, and one by three participants. Many participants also mentioned the same idea expressed in a code in more than one interviews.

Next, I used cross-unit analysis (Yin, 2014) to further compare, refine, and integrate the codes. I also iteratively revisited my interview notes, consulted with relevant literature, and discussed my findings along the way with my advisor (Lynn Paine) and fellow researchers (including James Spillane). Through these efforts several critical themes emerged. For instance, the codes "referring to policy documents," "representing their organizations," and "counting on prior experiences" all convey the similar message about the participants' construction of their implementing roles to seek a general sense of direction. Then, I merged these codes into a more generic theme which I call "Sense-orientation" (Sandberg & Tsoukas, 2015). As a result, four themes about the participants' sensemaking process emerged from the data with boundaries that set them qualitatively apart from one another. These are sense-orientation—seeking a general sense of direction; sense-specification—mapping out concrete implementing schemes; sense-giving—negotiating collective meanings with other actors; sense-adaptation—adjusting thoughts and actions according to the changing circumstances.

To explore what factors shaped sensemaking and what consequences sensemaking caused, I conducted additional rounds of coding, which then resulted in several preliminary

assertions about the relationships among the key components of the conceptual framework. For instance, through a few more waves of coding, I reached the following assertion:

> *When crafting specific implementing schemes, the actors heavily drew on their professional knowledge.*

Then, I used multiple sources of data to triangulate (i.e., substantiate, revise, or reject) this initial assertion. For instance, in Feng's second interview, he claimed that he counted on his rich knowledge about Ning's teacher workforce and figured that Ning would be short of 200 teachers in the next 4-5 years if no new teachers join the teacher workforce. Then, he advocated that the county should apply for 200 new teachers, and thus take advantage of the *Tegang* policy. Feng's own accounts suggest that policy actors' professional knowledge might plays an important role in shaping their sense-specification. Then, I looked up the teacher workforce datasets and compared the numbers of teachers across the past few years. The comparing results show that the natural attrition rate of Ning's teacher workforce was between 6% and 7% per year. It means that on average, about 166 to 193 teachers (2,759*6% - 2,759*7%) would leave Ning's teacher workforce without any policy interventions. Since the student population is relatively stable, the county needs to hire about 200 new teachers each year, considering a few other unexpected leaves. The result I obtained independently from analyzing Ning's teacher workforce data confirmed what Feng said in his interview. Furthermore, I also heard the same teacher attrition rate in the informal conversations with the three school principals, as recorded in my field notes. By juxtaposing the research findings obtained from analyzing interview, observational, and textual data, I ultimately substantiated the assertion exemplified above because different sources of data have pointed to the same findings.

Research Ethics and Positionality

Research Ethics

To minimize the risk that this study may cause to the participants, I have done three things. First, I obtained from Michigan State University an Institutional Review Board (IRB) approval for this project before research activities commenced. In my fieldwork, I informed the participants with the information that they have the right to know (e.g., the purpose of the study, their right to withdraw at any time). As a result, all the participants participated in this study on a voluntary basis.

Second, I have anonymized all individually identifiable information (e.g., names, institutions) throughout the data analyzing and dissertation writing stages. All the data are stored on my laptop and are protected by two passcodes. Third, as shown in the pilot study, tape-recoding the interviews would intimidate the participants and further make them be on guard. To reduce the participants' concerns of being exposed to future risks, I chose not to tape-record the interviews. Alternatively, I used note taking to record the interviews.

My Researcher Positionality: "An Insider's View from the Outside"

Feng:	Liao Wei, what if you are collecting some data for the American government?
Wei:	What? No, I am not at all. Yes, I am a student in an American university, but I am here to do research only.
Feng:	How can we trust you?
Wei:	I am Chinese, right? I grew up in Guizhou, and I went to colleges in Beijing for eight years.
Feng:	But we heard that some Chinese people intentionally collect something bad about China and report them back to other countries.
Wei:	Feng Laoshi[7], I am in the field of education. I do not study nuclear physics, military engineering, or other fields that can threaten national security.

[7] Laoshi (老师), literally means teachers, is often used as a honorific to show respect.

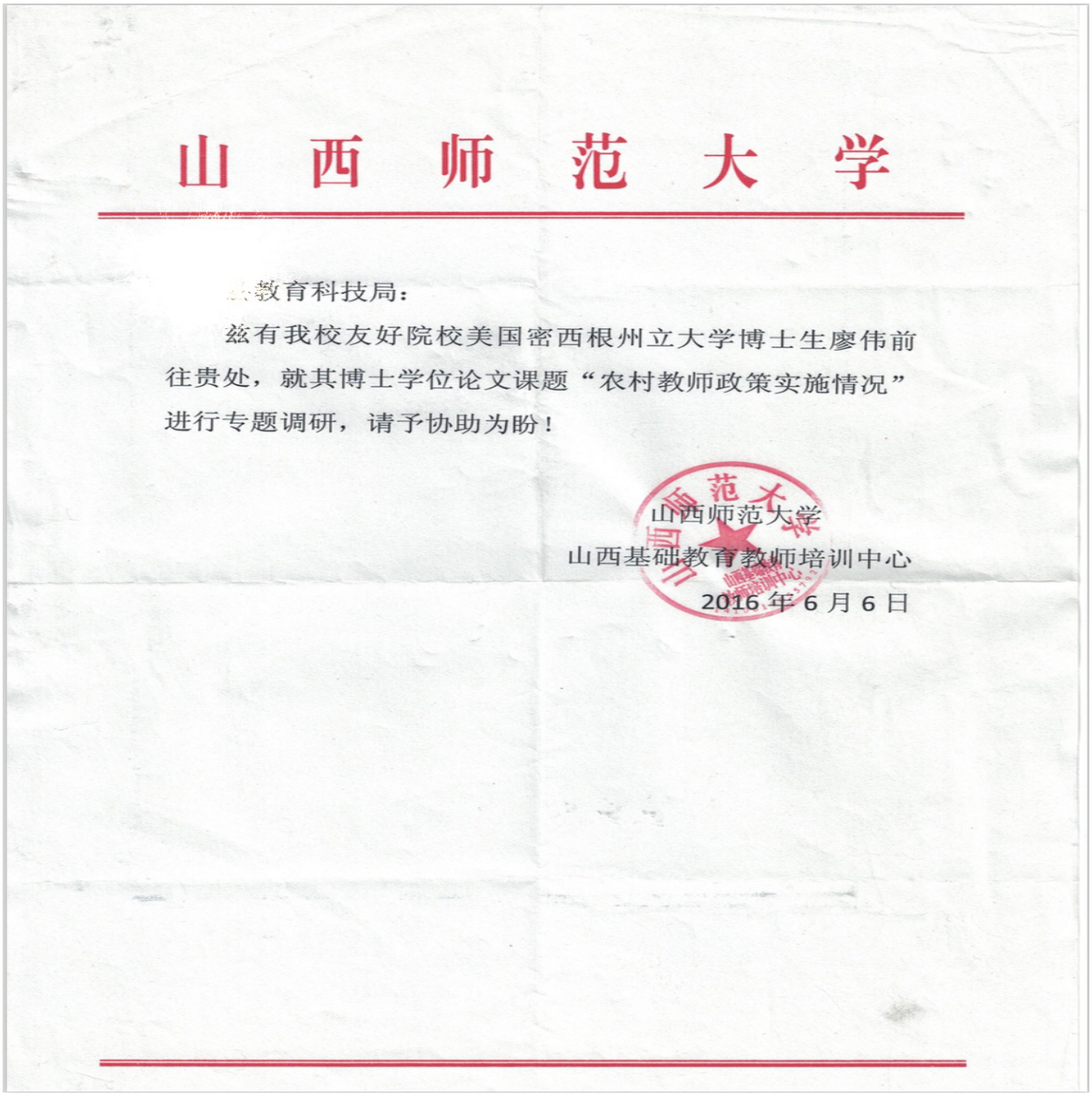
Feng: Sorry for me being blunt, but my superior and I do have concerns. I think we need a red-headed letter[8] from Shanxi Normal University, so that we can make your work here on record, and make it more official.

Wei: OK. I will obtain the letter as soon as possible.

The above conversation occurred in the middle of my fieldwork. With the help of my local point person Feng, I was able to start my fieldwork in Ning County immediately after I arrived there in May 2016. However, after I had been there for a few days, Feng gave me a phone call, and asked me to his office. Above was what we talked in the conversation that I recorded in my field notes. I contacted the professor at Shanxi Normal University after this conversation, and obtained a red-headed introduction letter to Ning's Education Bureau, and submitted to Feng (see Figure 8 for the letter).

Feng's concern probably was rooted in his life experience a few decades ago when United States and China portrayed each other as an ideological rival and threat to each other. Feng and his superior's concern was a testimony of the continuum of this potentially complicated status of rival. Feng's concern was valid, and helpful to me. He reminded me of not doing the so called "misery research" (McLaughlin, 2008) to collect a bunch of miserable stories that Chinese policy implementing actors had and then share with the readers of this dissertation who may not be familiar with the Chinese context.

[8] Red-headed documents (红头文件) refer to the official documents that are often used in China's governance system. Red is the symbolic color of the Communist Party of China which is the only ruling party in China. Red-headed documents carry institutional power and they are one of the most important ways for the institutional bodies in China's governance system to communicate with one another.



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山西师范大学
山西基础教育教师培训中心
2016 年 6 月 6 日

Figure 8. Red-headed letter to Ning’s Education Bureau.

Note:
a. The real name of Ning County has been removed to protect the confidentiality of the research site.
b. Translation of the letter:

Dear Education Bureau of Ning County:

We introduce Mr. Wei Liao, a Ph.D. student from our friendly collaborating school Michigan State University, to conduct his doctoral dissertation study “Rural Teacher Policy Implementation.” Please help and coordinate.

Shanxi Normal University
Center for Teacher Education and Training for Basic Education
6 June 2016

But meanwhile, I was also quite shocked when I was having this conversation with Feng, because it shook my taken-for-granted notion that I am Chinese so I can easily gain these Chinese policy actors' trust. Rather, they pushed me away, and looked at me with doubting eyes. It was during this conversation that I realized the disparities between how I positioned myself and how I was positioned by my participants, and I realized I needed to clear their concerns and earn their trust. I suspect Feng would have been even more defensive if I were a foreigner. The American element of my identity did cause some of their initial concerns, but my identity as Chinese significantly helped me make connections with them quickly, and cleared their concerns, and finally I was able to get access to different sites and local implementing actors in Ning County which would normally not be accessible to people outside of the system.

My "insider-outsider" identity was also reflected at the intellectual level. On the one hand, relying on my early life and learning experiences in China, I obtained an insider's knowledge about the Chinese context where the fieldwork took place. On the other hand, my learning experience in the U.S., specifically the courses I took, the literature I read, and the ways in which I have been trained for doing research jointly led me to pursue a certain value (i.e., educational equality), to adopt a certain methodological approach (i.e., case study), to investigate a certain topic (i.e., policy implementation), and through a certain perspective (i.e., sensemaking) in this dissertation study. These all distinguished me form the actors I was studying. Thus, I acknowledge that my "inside-outsider" dual identity has been continuously influencing why I came to focus on sensemaking in policy implementation, how I chose to approach this research, and to which research directions I will pursue in the future.

CHAPTER 4

SUBTLE SENSEMAKING: CONSTRUCTING SENSES FOR IMPLEMENTATION

This chapter portrays the process of how the six policy actors in this study made sense of their policy implementation work. The analysis of the interview and observation data reveals that the actors engaged in a variety of sensemaking activities throughout their efforts at policy implementation. In particular, their sensemaking activities fall into four categories: sense-orientation, sense-specification, sense-giving, and sense-adaptation. While sense-orientation refers to the actors' efforts of seeking a general sense of direction for their implementation, sense-specification is about the actors' endeavors of mapping out a concrete implementation scheme. Sense-giving depicts the actors' attempts to negotiate collective meanings with other actors. Sense-adaptation is about how the actors' thoughts and actions transform over time according to changing circumstances. Below I first elaborate on each of the four sensemaking activities with examples from the data, and then discuss how these categories of sensemaking can enrich our understandings of sensemaking in policy implementation.

Sense-Orientation: Seeking A General Sense of Direction

When a new policy arrived, sense-orientation, or the attempt of seeking a general sense of direction, was the actors' common reaction. The actors employed a variety of activities to anchor their senses, such as employing prior knowledge, searching additional information, consulting policy documents, among several others. During the sense-orienting process, the actors' characteristics, policy signals, and the recent social discourses in China (e.g., booming economy, the anti-corruption movement) all shaped the actors' sense-orientation efforts.

The Actors Approached the New Through the Old

The three policies posed something new or imperative to the actors, which thus triggered the actors to do something, and that of course included their making sense of the situation. The first typical reaction that the actors took was trying to develop a rough but quick understanding of the policies by drawing on their prior knowledge and experiences. For instance, in early 2016, Mr. Yuan—the principal of Township Middle—received his first implementation task related to *Tegang*. The Education Bureau called Yuan to report how many *Tegang* teachers they would need. Yuan immediately saw the *Tegang* policy as an opportunity for improving his school's teacher workforce.

> I like *Tegang* teachers. Based on my interactions with several *Tegang* teachers in my work before, I know almost all of them have at least a bachelor's degree. They seem highly motivated in their teaching as well because if they want to get tenured by the end of their three-year contract, they need to work hard. So, when I received the call from the Education Bureau asking me to submit the request for *Tegang* teachers, I was thrilled. (Yuan, interview 1)

Principal Yuan developed a positive impression about the *Tegang* policy before he received the call from the Education Bureau. Such a feeling oriented Yuan towards an embracing gesture for his upcoming implementation tasks.

Different from Yuan, Principal Cao did not have direct experience working with *Tegang* teachers or implementing this policy before. But Cao could still draw on her experience with a similar teacher policy she already knew to construct her first impression about *Tegang*. Cao started her teaching career as a "Daike" teacher (代课教师, substitute teachers) in 1986. Daike Teacher Program was an alternative hiring policy that the Chinese government used to address teacher shortages in the 1980s. Cao said when she knew the *Tegang* policy for the first time, she felt *Tegang* was very similar to the Daike Teacher Program because they both use alternative hiring as the primary intervention for staffing high-need schools. Though *Tegang* and Daike have

significant differences (e.g., most *Tegang* teachers receive tenure after teaching three years, but that was not the case for most Daike teachers), Cao obtained a rough sense of the *Tegang* policy through comparing it to Daike. The initial sense served as the starting point of Cao's follow-up implementation work (Cao, interview 1).

In addition to work experience, the beliefs that the actors held also contributed to their sense orientation. For instance, Mr. Zhao, the principal of County Seat Secondary School, claimed that he very much valued teachers' continuous learning and development. Under his leadership, County Seat Secondary School had formed a dense culture of teacher professional development. Zhao also devoted much of his time and energy to creating as many professional development opportunities as possible for his teachers. Thus, when he knew that Ning County would start implementing the *Guopei* policy in 2010, Zhao immediately contacted the Education Bureau to try to secure as many *Guopei* PD resources as possible for his school. Zhao attributed his activeness to his emphasis on the importance of PD in teacher workforce administration (Zhao, interview 1). In contrast, the other two principals (i.e., Yuan and Cao) did not focus on PD that much. As a result, when the Education Bureau asked them to nominate some of their teachers to participate in *Guopei* programs, they initially felt unwilling to do so. Yuan and Cao gave the same reason for their initial resistance to *Guopei*: "who will come to fill up their vacancies if they [the teachers selected to participate in *Guopei* programs] are away for training?" (Yuan, interview 3)

The Actors Used Policy Documents as a Reference

Another strategy that almost every actor took to develop their general sense for implementation was to read the policy documents—the written articulation of the policy goals,

interventions, and mandates. By reading the policy documents, the actors achieved two things: forming the first impression about the policy, and noticing their responsibilities.

For instance, Feng, who was in charge of the implementation of *Tegang*, said he read the full policy document several times right after he received the implementation tasks from the provincial government. The first impression he obtained from reading the policy document was that *Tegang* was an excellent opportunity for tackling Ning's shortage of teachers (Feng, interview 2). According to the regulations of *Tegang*, only applicants holding a bachelor's or higher degree are eligible to apply. It can guarantee the quality of *Tegang* teachers, considering that many existing rural teachers have a high school diploma only as their terminal degree. Also, *Tegang* policy attracted Feng because the national government pays *Tegang* teachers' salaries for the first three years. Because of this signal, Feng thought *Tegang* could help alleviate the financial burden of Ning County. By focusing on the primary interventions of *Tegang* as delineated in the policy document, Feng formed a positive impression about this policy. Similarly, Dong said his reading of *Guopei* documents led him to embrace this policy because the documents highlighted the various and many PD opportunities it would offer to teachers for free (Dong, interview 2).

Several other actors, such as Wang and Zhao, developed their initial senses for implementation by focusing on their responsibilities as defined in the policy documents. For instance, Wang inaugurated the Vice Director of the Teacher Affairs Office in 2010. His primary work on the new position was to manage the 45 *Tegang* teachers hired in 2009. He received two policy documents from Shanxi Provincial Government regarding this work: one was about paying the *Tegang* teachers the same salary as that of the tenured teachers; the other was about

re-hiring satisfactorily performing *Tegang* teachers with tenure contracts by the end of their third year of teaching. Wang said,

> I read the guidelines [for implementing *Tegang*] once I got them. I realized that, well, though it was the national government funding *Tegang* teachers [for the first three years], the county-level education bureaus are the main body of managing *Tegang* teachers after the initial recruitment. (Wang, interview 1)

By referring to the policy documents, Wang successfully obtained a sense of the focus of his upcoming implementation tasks. Similarly, Yuan read the *Tegang* documents right after the Education Bureau asked him to submit a request of *Tegang* teachers (Yuan, interview 2). Zhao, the principal of County Seat Secondary School, also paid close attention to his responsibilities in implementing the *Zhihuan* policy when reading the policy document. Zhao noticed that his major responsibility was to send 10% of his school teachers to participate in the urban-rural exchange program. This message made him feel that it would be challenging to fulfill this responsibility because based on his knowledge about the teachers, few teachers would want to teach in rural schools. Zhao said,

> The intent of this policy [*Zhihuan*] is good for sure, but I don't think it is easy for our school, or I could say for many schools located in the county seat, to send 10% of their teachers to participate in this program, because few teachers working in county seat schools would be willing to work in rural areas due to rural schools' challenging working conditions. At the beginning [of me implementing *Zhihuan*], I had a tough time in thinking of how to motivate my teachers to participate. (Zhao, interview 1)

Taken together, the documents of the three teacher policies contained important information about what the policies aimed to achieve, how to achieve, and what roles the local actors were required to play in carrying out these policies. Thus, reading the original policy documents also helped the actors develop a general sense for their implementation work.

"The Butt Determines the Head"

The actors' institutional roles also influenced how they initially positioned themselves for implementation. A telling example of this point was the divided attitudes that the school principals and the Education Bureau officials held towards the *Zhihuan* policy. Similar to the governance systems in many other counties in China, school principals in Ning County are mainly responsible for the daily operation of schools, while the officials at the Education Bureau lead county-wide education reforms. Thus, when the principals and the Education Bureau officials were constructing their general senses about the *Zhihuan* policy, they had different groups of teachers in their minds, which led them at the start to opposite judgments about *Zhihuan*.

For instance, Feng, the official who was leading the implementation of *Zhihuan* in Ning County, said, "We need policies like this. If we don't force the urban and rural teachers to exchange their teaching positions, the teacher quality disparity between urban and rural schools will be getting more and more serious" (Feng, interview 2). Mr. Wang, the vice director of the Teacher Affairs Office, echoed this point. Wang said, "I knew it would be hard to make schools, especially those located in the county seat, to implement this policy [*Zhihuan*] fully, but I felt it was the direction we Education Bureau needed to advocate" (Wang, interview 1). Nevertheless, the three principals in this study, no matter whether their schools are located in urban or rural areas, initially resisted the *Zhihuan* policy for different reasons. Mr. Zhao, the principal of County Secondary, was worried about how to motivate his teachers to participate in the exchange program. As for Mr. Yuan and Ms. Cao, the two principals whose schools are located in rural areas, they were primarily concerned with issues related to accommodating the teachers exchanged to their schools, such as their housing, teaching workload, and evaluation. For

instance, Yuan said, “I worried if the urban teachers would put up with our simple teacher dorms” (Yuan, interview 3).

Because of the different institutional roles, the three county-level actors and the three school-level actors developed different attitudes towards the other two policies as well. For instance, while Dong embraced the *Guopei* policy as a great resource, the two rural school principals Yuan and Cao showed no interests in sending their teachers to participate in *Guopei* programs at the beginning. For instance, Yuan said,

> One day in 2010, I received a call from Mr. Dong, asking me to recommend an English teacher to participate in a seven-day professional development in Taiyuan [the capital city of Shanxi Province]. That was the first time I knew this policy. To be honest, the first idea popped up in my mind was not “how wonderful this policy is,” but was “where I could find a substitute teacher to fill the teaching vacancy left by the participating teacher.” (Yuan, interview 3)

In my second interview with Dong, I shared with him the initial resistance that the rural school principals presented when they first knew the *Guopei* policy. Dong used a local Chinese saying “The butt determines the head (屁股决定脑袋)” to explain the differing gestures they posed towards the same policy. This saying well summarizes the finding that the actors’ institutional roles could largely shape their sense-orientation efforts and outputs.

A Tightening Socio-Political Discourse Led to the Actors’ Defensive Mindset

In 2012, the sitting Chinese President Xi Jinping started an anti-corruption campaign in China’s civil service system. This campaign has been tightening the socio-political discourses in China in several ways, such as forbidding inappropriate uses of public funds to entertain guests, and more severe punishment for political corruption (Yuen, 2014). School principals and county-level officials are members of the civil service system. Thus, the six participants of this study were targeted by the anti-corruption campaign, and their sense orientation efforts were influenced by the stringent socio-political context. In general, the actors tended to take a

defensive mindset when picturing their implementation work to avoid causing severe resistance from the school teachers. For instance, Dong said,

> The *Guopei* programs are good resources, and almost every teacher wants to participate. Therefore, when I was thinking of how to distribute the *Guopei* quota, one of my biggest concerns was how to make my selection of teachers reasonable to school principals and teachers. Therefore, I chose to select teachers strictly according to what the policy guidelines regulate. For instance, if a program is for novice mathematics teachers, I will not pick our senior teachers or teachers of other subjects to participate. (Dong, interview 2)

Similar to Dong, the other actors also demonstrated a strong awareness of avoiding conflicts in their implementation. Zhao, Wang, and Feng all compared today's teachers with the teachers a few decades ago. Their conclusions are the same: Today's teachers are less self-sacrificing than before and thus are more difficult to manage. Therefore, when thinking about how to carry out the policies that would influence the teachers' benefits and responsibilities, policy actors nowadays need to consider teachers' feelings and reactions more. For instance, Zhao said,

> In the past, we several school leaders could determine the dismissal of a low-performing teacher just by ourselves, but now we cannot do that. The dismissed teachers would appeal to the higher-level governments, and that would put us in trouble. (Zhao, interview 2)

In 2012 when Zhao received the task of selecting 10% of his school teachers to participate in the urban-rural exchange program, he had anticipated the resistance from teachers. Zhao realized that he needed to come up with a smart way to motivate the teachers. Otherwise, he would have to deal with teachers' resistance, or in a worse scenario, teachers' protesting or appealing to the upper-level governments.

Feng was targeted by teacher protest indeed. In the past few years, some hundred Daike teachers[9] have repeatedly accused Feng of mistreating them. Ning County hired these Daike teachers as temporary workers to address teacher shortages in the past few decades. However, in 2006 the Chinese government regulated that local governments should eventually dismiss temporary teachers because their professional quality as well as their benefits could not be guaranteed (Pang & Han, 2007). To comply with this national regulation, Ning County decided not to renew these teachers' contracts after 2010. However, these teachers claimed that the County Government had paid them less than they deserved. Because it was Feng's Teacher Affairs Office that fired these teachers on behalf of the County Government, they picked Feng as the person to blame. These teachers started appealing to the prefectural and provincial governments. Every time, when any upper-level government officials came to Ning County, these teachers organized strikes to make their complaints loud enough to be heard by those officials. The teachers' protests made Feng look "bad," and caused him a chronic headache. Feng said, "It [the teachers' protest] has taught me two things. First, the current social and political atmosphere has given teachers greater power to express their objections and fight for their benefits. Second, we [government officials] should consider teachers' voices more in our work" (Feng, interview 2).

To sum up, sense-orientation was the first sensemaking task that all six actors in this study used to develop a general sense of direction for their implementation. During this micro-process, the actors' prior experiences related to the policies, the signals carried by the policy documents, the actors' institutional roles, and China's recent socio-political movements all have

[9] Daike (代课) teachers, or non-governmental teachers, are those who are not part of the government's establishment of school staffing in China and who hold temporary posts. For more information regarding the role, characteristics, and status of Daike teachers, see Robinson and Yi (2008).

helped the policy actors obtain a rough idea of how they would carry out the policies on the ground.

Sense-Specification: Mapping Out the Implementation Schemes

Overall, the actors' sensemaking was a process of developing ideas and actions originally seen as general to be clear and straightforward. With the actors' continuous explorations, the general sense they obtained from sense-orientation eventually evolved to be some particular implementation schemes, and the term "sense-specification" is used to refer to such a micro sensemaking process. During the sense-specification process, a set of factors, including the actors' knowledge about the teacher workforce, the policy signals, the hierarchical governance system, and the *Guanxi* (关系, interpersonal) culture all contributed to the actors' efforts of mapping out the specific implementation schemes.

The Actors' Professional Knowledge Helped Surface the Problems and Needs

Only when the actors have a clear idea about the problems and needs of the local teacher workforce can they develop the implementation schemes appropriately. The six participants played the primary roles in managing Ning's teacher workforce. Their knowledge about the characteristics of Ning's teacher workforce helped them see the challenges and opportunities. Feng's estimation of Ning's teacher shortage well demonstrated how his professional knowledge qualitatively shaped his sense-specification for implementing *Tegang*. Feng said he might be the one who knew Ning's teacher workforce the best in the county because he had almost 40 years of experience working as a teacher, a school principal, and an administrator in Ning's education system. Feng said, according to the national standards of teacher/student ratio issued by China's Ministry of Education, Ning County should have 2,914 teachers but they actually had 2,759 teachers in 2015, which caused a shortage of 155 teachers. In the past few years, Ning filled

those vacancies with temporary teachers. However, each year about 3% of the teachers leave Ning's teacher workforce because of teachers' retirement, resignation, losing the ability to work (e.g., having severe health problems), and unexpected death. As of 2016, Ning County had 2,759 teachers. Therefore, each year the natural teacher attrition (of 3% a year) would lead to about 80 teaching vacancies if no new teachers are added to the teacher workforce. In addition, Feng also pointed out that the 2,759 teachers were disproportionately distributed between the schools located in the county seat and those in the townships or small villages. While the county seat schools usually have more teachers than they need, the township or village schools often lack teachers (Feng, interview 2).

Drawing on his comprehensive knowledge about the overall characteristics of Ning's teacher workforce, Feng knew well what challenges Ning's teacher workforce was facing and what interventions might be useful for overcoming those challenges. Through sense-orientation Feng developed an embracing gesture towards *Tegang*. On top of that, Feng started to figure out what specific things he hoped to achieve through implementing *Tegang* during the sense-specification process. Feng estimated that Ning County would be in need of 233 new teachers by the end of 2016. Therefore, he decided to use the *Tegang* policy to fill 200 of the 233 vacancies. He intentionally left dozens of the positions for the county government to fill on its own because he could have greater control of the recruitment process and outcomes in the county-government-led recruitment than he did in the recruitment of *Tegang* teachers. "I did not want to put all the eggs in one basket," Feng said (Feng, interview 2).

Similarly, the three principals also knew a great deal about the teacher teams in their respective schools so that they could use such knowledge as a base for developing specific implementation schemes. For instance, both Yuan and Cao, the two rural school principals, saw

the *Tegang* policy as an excellent opportunity to alleviate the teacher shortages in their schools. Thus, in early 2016 when Feng's office asked them to report their needs of *Tegang* teachers, Yuan and Cao quickly identified the teachers they needed. Yuan requested five teachers (Physical Education: 1; History: 1; English: 2; Physics: 1) while Cao asked for six teachers (1 teacher of each of the following subjects: Math, Chinese, English, PE, Arts, and Music). Compared to Feng's focus on the number of teachers, the school principals considered more factors when specifying their needs of new teachers (Yuan, interviews 2 and 3; Cao, interview 2). For instance, Yuan said,

> Because of the enactment of the two-child policy this year [2016], so far at least three teachers have come up to me, saying that they would need maternity leave in the next semester or two because they are now planning to have their second child. I think more female teachers in our schools would have that need in the next few years. So, when I calculated the teachers our school would need, I considered this trend as well. (Yuan, interview 2)

In short, building on the initial sense constructed throughout sense-orientation, the actors started to use their professional knowledge about the teaching teams at the scales of their concerns to identify the problems they faced and to specify implementing schemes to try to solve those problems.

The Policy Regulations Established the Actors' Initial Schemes for Implementation

The local policy actors' major implementation task was to distribute educational resources, such as the new teachers hired through *Tegang*, the professional development opportunities funded by *Guopei*, and the exchange opportunities provided by *Zhihuan*. Therefore, how to select teachers for these policies became essential to the actors' sense-specification efforts. Each policy had their specific criteria for selecting participating teachers. The actors heavily relied on those criteria as a reference for detailing their senses for implementation. For instance, the teacher selection criteria of the *Zhihuan* policy are as follows:

The applicants should meet the following requirements:

1. Have taught in their present school for at least six years;
2. Teaching performance is excellent;
3. Under 50 years old.

(*Zhihuan* Implementation Guidelines, 2012)

When the three principals were drafting their teacher selection plans, they all claimed that they tried to comply with the criteria as much as they could. For instance, Zhao said, "When I was thinking about how to select teachers, I consulted the guidelines we received from the Education Bureau and tried to stick to them" (Zhao, interview 2). Similarly, Dong also used the selection criteria as delineated in the *Guopei* policy document as his primary reference. Two reasons contributed to Dong's seemingly compliance with the policy regulations. First, each *Guopei* program often targeted a specific group of teachers, such as novice mathematics teachers, rural school principals, and so on. In other words, the *Guopei* PD resources often came with clear criteria for Dong to select teachers, which left a limited room or the need for him to develop a different set of selection criteria. Second, picking teachers that did not fit the requirements would cause some negative consequences to Dong, and this encouraged him to implement the policy faithfully. In 2015, Dong attended a meeting where local policy actors from all over Shanxi Province shared their experiences of implementing the *Guopei* policy in their respective contexts. In that meeting, a leader from Shanxi Department of Education publicly criticized the officials who did not follow the policy requirements to select teachers. Dong said that was a face-losing moment indeed for the officials who were being criticized. Dong also felt relieved that he strictly complied with the criteria when picking teachers (Dong, interview 2).

In addition to selecting teachers, the three policies also require local policy actors to monitor the participating teachers' performance throughout the programs. For instance, the *Tegang* policy requires the rural school principals to conduct an annual evaluation of each of their *Tegang* teachers. The *Tegang* policy regulates that the evaluation should cover four aspects of a teacher's performance: morality, competence, attendance, and outputs (德、能、勤、绩). However, the *Tegang* policy does not give specific definitions for the four aspects and what indicators should be measured. When Yuan assumed the position of principal in Township Middle School in 2010, there were 5 *Tegang* teachers already in this school. Therefore, Yuan was responsible for conducting the annual evaluations for the five *Tegang* teachers. Yuan said,

> We [Township Middle School] have our own evaluation rubrics, but the [*Tegang*] policy requires principals to use a separate form to evaluate the *Tegang* teachers. You know, as a principal I need to fill out many forms every day. To fill out one more form did not make any big difference to me. So, I just decided to use the form provided [by *Tegang*], though I did try to make my evaluations specific enough. (Yuan, interview 3)

As evidenced in the examples reported above, policy signals regarding how the actors should carry out the policies, though often general and vague, were a critical tool for the actors to develop detailed schemes for implementation.

The Bureaucratic Governance Structure Modified the Actors' Implementation Schemes

Policy implementation needs to accomplish through an existing governance system. China has one of the most bureaucratic governance systems in the world (Saich, 2010). Bureaucracy is known for its hierarchical governing organizations, rigidly defined authority and accountability of each level of organizations, and operating under formal rules across organizations (Waters & Waters, 2015). In general, people who work at a higher-level in a bureaucratic system tend to possess more resources, power, and authority. The six participants in this study were working at the bottom level of China's bureaucratic governance system, which

means that they have limited power for rejecting the orders coming from the upper-level authorities. Influenced by such bureaucratic organizational contexts, the actors specified their senses for implementation in several interesting ways.

First, the actors attempted to request more policy resources than they actually needed as a means of self-protection. For instance, Ning County initially planned to request 200 *Tegang* teachers, which was almost three times the number of new teachers that Ning County would need in 2016. Feng reasoned,

> I have no idea about how the provincial government determines the final quota [of *Tegang* teachers] our County will receive. That's beyond my control. But according to my experience, it's very unlikely that the upper-level governments will approve everything you request. They often cut half or more of the things you ask for. Though I asked for 200 *Tegang* teachers, the number I guess we finally would get must be between 80 and 100. (Feng, interview 2)

Interestingly, Yuan and Cao used similar sense specification strategy when they were reporting their requests of *Tegang* teachers to Feng's office. Yuan and Cao both intentionally made their teacher shortage problems appear more severe to Feng's office than the problems actually were. Yuan and Cao did so because they anticipated that the Education Bureau would not satisfy all of their needs, and thus they decided to strategically "whine" and "exaggerate" a little bit. For instance, Yuan said,

> We need a mathematics teacher and an English teacher. But, a number of our female teachers are going to take maternity leaves for their second babies soon. As a principal, I need to think ahead and prepare accordingly. Thus, I finally decided to request five *Tegang* teachers from the Education Bureau, hoping to have more teachers next year to deal with that situation [that several female teachers would temporarily leave]. (Yuan, interview 2)

The experiences of Feng, Yuan, and Cao suggest that "whining" and "asking for excessive policy resources" could be some strategies that local policy actors use in their implementation schemes in a bureaucratic governance system.

Second, some of the participants also blended additional interventions into their initial implementation plans. For instance, Feng, Wang, and the three school principals all realized that implementing *Zhihuan* would cause teachers' strong resistance especially those working in the well-developed county seat. To motivate county seat schoolteachers to participate in the urban-rural exchange program, Feng and his Teacher Affairs Office decided to tie teachers' participation in the exchange program to their professional promotion. Feng argued that professional promotion might be the thing that many teachers cared the most because getting promoted could lead to the increase of a series of benefits, such as professional status, salary, and subsidy. It was Feng's office taking full charge of teachers' professional promotion in Ning County. Strategically, Feng added "Have the experience of supporting rural schools for at least one year" as a required qualification for professional promotion. In other words, Feng attached additional incentives to his initial implementation scheme, hoping to promote teachers' participation in the exchange program (Feng, interview 2). In contrast, when implementing a favored policy (such as the *Guopei* policy), the actors tended to add more "obligations" to the implementing schemes. For instance, the three school principals all required that their teachers who were selected to participate in the *Guopei* programs needed to "give something back" to their schools as an additional obligation (Zhao, interview 2; Yuan, interview 1; Cao, interview 1).

In short, China's bureaucratic governance system posed mixed influences on the actors' sense specification. One the one hand, the local implementing actors tended to use aggressive request of policy resources to influence the decision by their superiors. On the other hand, they also managed to draw on the institutional powers granted by the existing bureaucratic system to modify their implementation schemes to nurture the cooperation of the targeted teachers.

The "*Guanxi*" Culture Nurtured Favoritism in the Actors' Implementation Schemes

Guanxi (关系) is traditionally seen as one of the underlying cultural logics that guides social interactions in Chinese society (Fei, 1947). No word in English has the exact meaning of *guanxi*, but roughly it can be translated as interpersonal connections. Scholars have brought up many definitions of *guanxi*, trying to parse the characteristics of this term. A recent review of these definitions was conducted by Fan in 2002. According to Fan's synthesis, *guanxi* is "a process of social interaction" (p. 543). *Guanxi* can be viewed as a relationship (as established by blood, place, or intermediary), as an exchange (give and take), and as a resource (a form of social capital).

In his classic anthropologic study "From the Soil," Fei Xiaotong (1947) characterized the foundations of Chinese society and considered the importance of *guanxi*. Fei (1947) argued that compared to western societies, where it is primarily formal laws that regulate people's social activities, Chinese people rely more on informal interpersonal relationships—*guanxi*—to guide their social interactions. With rapid political, economic, and social changes since the 1940s, when Fei's observation was made, some might argue that his claim is outdated. However, many recent studies (e.g., Chen, Chen & Huang, 2013; Chen, 1994) found that *guanxi* is still a significant cultural concept influencing Chinese people's social lives.

Guanxi and its influence on the actors' sense-specification were evident in my data as well. A telling example was principal Yuan's attempt to favor particular teachers when selecting teachers to participate in the *Guopei* programs. Almost every teacher wanted to participate in *Guopei* because it could give them a temporary leave from their daily work to learn new things and tour new places. Therefore, in addition to complying with the selection criteria as specified by the policy, Yuan consciously used his *guanxi* with different teachers to tweak his scheme for

selecting teachers. Yuan shared the following "secret" with me in my last interview with him after we developed greater trust with each other.

> Do you know Shuai[10] is Mr. Dong's daughter? Dong and I were colleagues in another school for years in the 1980s, and we were even living in the same school dorm building. I saw Shuai growing up. You know, Dong is now the person who is in charge of the *Guopei* programs in our county. So, it's very natural and understandable that we often choose Shuai to participate [in *Guopei* programs] because it's easy to get our request approved by Dong's office. (Yuan, interview 3)

What Yuan did not tell me explicitly (but his words implied) was that he wanted to maintain a good *guanxi* with Dong by favoring Dong's daughter because he needed to count on Dong for getting *Guopei* resources for his other teachers.

Guanxi also shaped Wang's sense specification for implementing the *Zhihuan* policy. Unlike Yuan actively using *guanxi* to exchange more resources, Wang tried to circumvent the *guanxi* that some schoolteachers had with the "big names" in the county. During the first cycle of implementing the *Zhihuan* policy, some participating teachers performed inappropriately in the rural schools. For example, a few teachers declined to teach on Fridays, did not attend staff meetings, or even were absent for a couple of days without informing the principals beforehand (Feng, interview 2; Yuan, interviews 2 and 3; Cao, interview 2; observational notes, 25 June 2016). As the executive director of implementing this policy, Wang kept receiving reports of teacher misconduct from rural school principals. Wang commented on this phenomenon as follows,

> Many of them [the "misbehaving" teachers] have *guanxi*. Either their families or someone they have very good relationships with have a lot of power that can easily influence our work. If I punished the misbehaving teachers, that would cause troubles to myself or even to our office. There are many complicated power relationships I need to stay away from in my work. (Wang, interview 2)

[10] Shuai is a teacher in Yuan's school, Township Middle School. Shuai was one of the teachers I knew and conversed during my fieldwork in Township Middle School.

Thus, when thinking about how to avoid similar situations happening again in the future, Wang became more aware of the *guanxi* that might have impeded the implementation, and thus developed several new mechanisms to circumvent the *guanxi*, such as adding interviews to the teacher-school matching process. By interviewing the exchanging teachers on their own, rural school principals could reiterate their expectations for the exchange teachers beforehand, and evaluate the exchanging teachers' commitment to supporting rural schools on their own. In the revised process of pairing teachers with schools, rural school principals could also refuse the exchanging teachers that Wang's office assigned to them. Wang said, "We [the county seat] cannot directly refuse the application of teachers who would potentially use their *guanxi* to game this policy, but the rural school principals can do that in the new matching process" (Wang, interview 2). In brief, *guanxi* complicated some policy actors' sense specification.

While the policy actors continued to use *guanxi* to navigate their policy implementation, the recent anti-corruption campaign led the actors to do so cautiously or implicitly. For instance, to avoid being contacted by the people who wanted to use *guanxi* to influence his decisions on how to distribute the quota of *Tegang* teachers, Feng turned off his phone and disappeared for a few days in early 2016. Feng said,

> I would have been bombarded by lots of phone calls if I did not cut myself off. Many people would try to contact me to ask for favors. I need to be extremely cautious about what I should or shouldn't do. Any misuses of the power we have will lead to serious consequences nowadays. (Feng, interview 2)

The other policy actors in this study also expressed their awareness of the anti-corruption campaign and their hopes to do work "cautiously" and "correctly" (e.g., Dong, interview 1; Wang, interview 2). However, the data still revealed their implicit uses of *guanxi* in their policy implementation. For instance, all three principals attempted to use their *guanxi* to get more policy resources; Yuan recommended Dong's daughter for *Guopei* PDs that she was not

qualified, hoping to maintain good relationship with Dong; Dong also acquiesced to Yuan's "misuses" of the *Guopei* resources. Together, these examples showed that the traditional *guanxi* culture intersected the recent anti-corruption campaign and jointly shaped the policy actors' sensemaking and policy implementation. *Guanxi* remained as an important cultural logic guiding the policy actors' policy implementation, but the anti-corruption campaign rendered them more cautious in their uses of *guanxi*.

In sum, after obtaining a general sense of direction via sense-orientation, the policy actors developed detailed plans for carrying out the policies. Such a sense-specification process is influenced by a set of factors, including the actors' knowledge about the teaching force, the policy regulations on how policy actors should carry out the policies, the bureaucracy of the local governance system, and the sustained *guanxi* culture in the Chinese society. Sense-specification helped the policy actors develop two versions of implementing schemes. One is a publicly claimed version that complies with policy regulations (e.g., Dong's description of how he selected teachers for *Guopei*). The other is an implicitly used version that considers the political and cultural norms/traditions in the local context (e.g., how Yuan used *guanxi* to justify his favoritism in policy implementation). Both versions of the implementation scheme entailed sense-giving—the third sensemaking activity—to negotiate commonly shared senses with other actors for implementing policies.

Sense-Giving: Negotiating Collective Meanings for Implementation

Implementing a policy entails collaboration among various types and levels of actors. However, the actors would not come to collaborate with each other voluntarily. Instead, the individual actors may come up with different or even competing motivations and strategies for implementing the same policies due to the individual, organizational, and societal variations. As

a result, the actors need to negotiate with each other continuously during policy implementation, and the term "sense-giving" is used to refer to this process. The actors in this study demonstrated a variety of sense-giving activities for constructing collective meanings related to implementation. A set of factors influenced the actors' sense-giving activities, including the actors' characteristics (e.g., argumentation skills, leadership style), the policy interventions, the institutional powers granted by the governance system, and the "face" culture in the Chinese society.

The Actors Attempted to Convince Others with a Variety of Argumentative Strategies

The sense-giving strategies found in the data included drawing analogies, purposeful "whining," and setting up role models. Drawing analogies was the first strategy that several actors used in their sense-giving attempts. For instance, once Feng had decided to apply for 200 *Tegang* teachers, he was thinking of how to convince his superior, the director of the Education Bureau, to approve this idea. Feng said,

> Our director has a clear sense of the general directions that our Bureau should head for, but he may not know the details about the problems facing our county's teaching force. Therefore, I needed to use some easy-to-understand language to convince him. I said, "The provincial government will pay the 200 teachers' salaries for three years. We can save a lot of money for our county. Why don't we use others' 'furs' to make our own 'clothes' (扯狐皮做大衣)?" (Feng, interview 2)

Yuan, Zhao, and Dong used metaphors to convince others as well. For instance, to seek the support of the county-level *Tegang* policy actors, Yuan made an analogy between a siphon (虹吸)—a U-shaped tube that causes a liquid to flow upward—and his school's high-performing teachers being "sucked" away by well-developed urban schools (Yuan, interview 3). Zhao said to the teachers in his school that "each teacher is a monument with extraordinary stories on it (每一位教师都是一面写满好故事的丰碑), " hoping to make some of them willing to participate in the exchange program (Zhao, interview 2). To encourage the school-level *Guopei* actors to

organize secondary training, Dong used "waterfall" as a metaphor to explain how secondary training looked like (Dong, interview 1).

Furthermore, the two rural school principals developed a particular strategy of sense-giving—purposeful whining. Because of the structural inequality, China's rural schools are persistently marginalized and discriminated against in the allocation of educational resources and opportunities (Xue & Li, 2015; Hannum, 1999). Against this macro-background, Yuan and Cao chose to complain loudly, hoping to receive the attention of the county-level policy actors. For instance, Cao said,

> I feel our school is often ignored [by the Education Bureau]. If I don't make my voice loud enough, our leaders will not pay close attention to us. You know, the whining kids always get the candy first. (Cao, interview 3)

Thus, when Cao was requesting policy resources from the Education Bureau (e.g., *Tegang* teachers), she purposefully made her school's teacher workforce look bad to justify her request. For instance, in the form for requesting *Tegang* teachers, Cao needed to report the number of teachers they had and how many more teachers they would need. In 2016, there were indeed 12 teachers teaching in the school, including six official teachers, two exchanging teachers from urban schools, and four temporary teachers (The Spreadsheet of the Background Information of Village Primary School Teachers, 2016). Both the official teachers and the exchanging teachers were tenured teachers who were hired and documented by the Education Bureau, but the temporary teachers were hired by the local village to address the school's shortage of teachers. Then, Cao did not count the four contract teachers when she was counting heads because she believed that by doing so she could make the teacher shortage problem seem more serious, and that would better convince the leaders at the Education Bureau to approve her request (Cao, interview 3).

Setting up role models was the third argumentative technique that the policy actors used for sense giving. They especially relied on this technique to seek for support when the targeted audiences were potentially resistant. The *Zhihuan* policy requires participating teachers to leave their workplace for one to three years (*Zhihuan* Implementation Guidelines, 2012). Many teachers were not willing to participate in the exchange program because changing workplace for a period would cause hardship or at least inconvenience to the participating teachers and their families. However, Zhao as the Principal of County Secondary was obliged to send 10% of his school teachers to participate in this policy. To achieve this goal, Zhao deliberately organized a teacher speech contest around the theme of "Good Teachers with Four Qualities (四有好老师)[11]." Based on recommendations, eight teachers who were considered as the best teachers in County Secondary attended the contest and shared their teaching stories. "Being self-giving" emerged from the eight speeches as a core quality of good teachers in the local context. For instance, a Chinese teacher mentioned in his speech that he was so busy helping his students prepare for the college entrance examination that on multiple occasions he forgot to pick up his daughter from her kindergarten. This story earned him thunderous applause from the audience (Observation notes, 27 June 2016). By using the eight locally defined good teachers as role models, Zhao attempted to encourage the other teachers to look up to the role models, learn to be self-giving, and finally be committed to supporting rural education through participating in the urban-rural exchange program.

[11] "Good Teachers with Four Qualities (四有好老师)" was a notion brought up by Chinese President Xi Jinping when he was visiting Beijing Normal University to celebrate China's thirtieth Teachers' Day on 9 September 2014. Xi called for all Chinese teachers to learn to become good teachers with ideal beliefs (理想信念), morality (道德情操), solid knowledge (扎实知识), and caring and graceful hearts (仁爱之心).

In brief, the actors used argumentative strategies such as metaphors, purposeful whining, and role models to try to "give sense" to other important stakeholders in policy implementation.

The Policy Interventions Lent the Actors Tools for Seeking Others' Cooperation

That Feng used the financial benefits of implementing *Tegang* to persuade his superior was a good example of how policy interventions could shape sense-giving. Feng also used the policy regulations to try to shape others' construction of meanings about the *Tegang* policy. Feng's office was responsible for conducting the initial screening of the applicants for *Tegang* positions (*Tegang* Implementation Guidelines, 2016). In 2016, Ning had 75 openings of *Tegang* positions which had attracted 2,756 people to apply. Using the minimum requirements as the screening criteria, Feng's office determined that 488 applicants were not eligible to apply and thus their applications had been declined. Then, Feng published initial screening results in the online application system where the applicants could check their application statuses. Along with the results, Feng's cell phone number was provided by the provincial government for the applicants to contact for any questions or concerns they might have. Feng said,

> My cell phone was exploding after we released the screening results. Many unqualified applicants called me for an explanation for why they did not advance to the next round. Some of them did not have a degree in the required majors, others did not have a teaching certificate, while still others were not fresh graduates. I had to repeatedly redirect them to the eligibility requirements in the original policy document. However, the good thing was that because we strictly complied with the policy requirements, none of the complaining applicants called me again. (Feng, interview 2)

While most of the actors used the already existing policy interventions for sense-giving, Zhao used an imagined intervention to persuade his teachers to participate in the *Zhihuan* policy. When the Education Bureau was still formulating the *Zhihuan* policy in 2011, the original idea was to regulate the participating teachers to exchange teaching positions for three years. However, before officially issuing the policy, the Education Bureau received a lot of complaints and resistance from the local schools and teachers. Then, the Education Bureau decided to trial

this policy with a one-year version. If things went well, the government would consider eventually extending the length of exchange from one year to three years. Thus, when Zhao was attempting to persuade his teachers to participate, he lent power from the imagined 3-year exchange program. He said to the teachers that it would be smart to participate in the one-year version of the exchange program now, because it was possible that this program would be elongated to be three years in the future, and then the participating teachers would have to stay in rural schools for a longer period. Therefore, the sooner the teacher completed this requirement, the shorter time they would have to stay in the rural schools (Zhao, interview 2).

The Governance System Granted the Policy Actors Unequal Power for Sense-Giving

Many people working in the local governance system took on a bureaucratic mentality. It meant that people were prone to follow their superiors' directions without explicitly questioning or resisting. People also tended to take their subordinates' compliance for granted and thus made decisions without considering their subordinates' opinions (Observational notes, June 2, 4, and 25, 2016). A telling example of the bureaucratic discourse in the local context was my observation of how a group of officials behaved in the Education Bureau Office Building. Feng was my local point person for helping me select and contact the research participants, but before I official commenced my research activities, Feng said he needed to get the approval from the director of the Education Bureau. Then, Feng led me to the director's office to get the approval. I was surprised when I saw several officials standing in a line, waiting to seek different kinds of approvals they needed from the director. After about 15 minutes of waiting, Feng and I finally had the chance to enter the director's office. Feng briefly introduced me to the director, and explained why we were there. Then I showed to the director a red-headed letter of introduction that I obtained from Shanxi Normal University. At that moment I felt that the destiny of my

dissertation fieldwork was held in the hands of the person who was sitting in front of me, which made me feel powerless and stressful. Feng also appeared more serious and prudent, which was different from how he looked like in other settings (e.g., when he was talking with his subordinates in his office). Fortunately, the director skimmed through the letter and then uttered several words, "It's a good project. Feng, please follow it up." Then he handed the letter back to Feng and lighted up a cigarette. After expressing my appreciation for his support, I stepped out of the director's office with Feng (Observational notes, 11 July 2016[12]).

I observed many scenes similar to the above one during my three months of fieldwork in Ning County. These observations reinforced my understanding that the institutional context that the six actors worked in was bureaucratic. One important characteristic of a bureaucratic system is the unequal distribution of legitimacy, power, and resources (Nicholson, 2017). In general, people working at a higher position in the system (e.g., the director of the Education Bureau) are likely to possess greater strength for influencing others than someone else in a lower position does (e.g., Feng as a subordinate to the director). Due to the shifting power relationships, the actors felt different degrees of necessity to "give sense" to various others. Moreover, the efforts that the actors needed to take for sense-giving also varied across different audiences.

In general, the superiors tended to assume that their subordinates would comply with their directions, and thus felt it was unnecessary to take extra efforts to convince them. For instance, when deciding how to distribute the 75 *Tegang* teachers among the schools in Ning County, Feng did not plan to seek the school principals' opinions at all. Feng said,

> I did not ask for the principals' opinions. You know, the principals always focus on their own [schools'] interests and tend to exaggerate the problems they are facing. This year [2016] we will get only 75 *Tegang* teachers, and the number cannot meet all the schools'

[12] My local point person Mr. Feng became concerned in the middle of my fieldwork. Therefore, he asked for a "red-headed" letter that he could show to the director of the Education Bureau to formalize my research in Ning County. That was why this event occurred in the middle rather than the beginning of my fieldwork.

> requests. Therefore, as the one who is in charge of our county's teaching force, I need to work out a plan for allocating the 75 teachers to maximize the benefits that these *Tegang* teachers could bring to our county. (Feng, interview 2)

Then, Feng decided the numbers of *Tegang* teachers that each of the applying schools could receive and notified the school principals without giving specific explanations about how he reached these decisions. On the surface, all the principals accepted the decisions, but in reality, they had different reactions. For instance, Yuan felt thrilled when he knew that the Education Bureau approved his request of five *Tegang* teachers. What surprised him was that the Bureau even assigned him one more mathematics teacher beyond what he had requested. In contrast, Cao also asked for five *Tegang* teachers, but the Bureau did not approve her request at all, which meant Village Primary School did not receive a single *Tegang* teacher in 2016. Mr. Cao said,

> I was disappointed and confused about the result. Maybe the Education Bureau had their considerations. That was beyond my control. (Cao, interview 3)

No matter whether they were thrilled or disappointed about the results, the actors did not explicitly challenge the authority of the results. To the school principals, applying for policy resources from the Education Bureau was like playing a lottery game. Sometimes the principals could decide whether to participate in the game or not, but they could hardly determine the outcomes, and they seemed good with it. Similarly, when the county-level policy actors were applying for policy resources from the upper-level governments, they had limited power to influence the decision-making process and outcomes either. For instance, both Feng and Dong said they had no idea about how the upper-level government determined which county should get what. Just like how the school principals accepted the decisions they made, Feng and Dong also chose to take whatever decisions they received from their superiors to comply with the logic of the bureaucratic governance system (Feng, interview 2; Dong, interview 2).

"*Mianzi*" Culture Mitigated the Conflicts in the Actors' Sense-Giving Endeavors

Sense-giving inherently has the risk of causing tensions between the sense-giver and the sense-recipient, because different actors may have different or even competing approaches to the same implementation tasks. For instance, while the actors at the Education Bureau saw the *Zhihuan* policy as a promising method of equalizing teacher quality between the urban and rural schools in Ning County, the principal of County Secondary perceived this policy as a potential harm to his school (Zhao, interview 2). However, the *mianzi* culture in the Chinese society helped lubricate the conflicts that might have emerged from the sense giving and negotiation process among the actors. *Mianzi* literally means "face," but within the Chinese context, its meaning has been extended to be about the dignity of an individual or an organization. Try to protect each other's *mianzi* is one of the fundamental cultural norms that are still guiding the interpersonal interactions in China today (Buckley, Clegg & Tan, 2006). Sense-giving is one particular form of interpersonal interaction, and therefore it is also influenced by the *mianzi* culture.

For instance, Mr. Zhao, the principal of County Seat Secondary School, attempted to convince his teachers to actively participate in the urban-rural exchange program by leveraging the concept of *mianzi*. During the 2015-2016 school year, three teachers from County Secondary participated in the urban-rural exchange program. These teachers were exchanged to a rural school located in a remote township of Ning County (The Information of the 2015-2016 *Zhihuan* Participants, 2016). A few weeks after the school year commenced, Zhao received a call from the principal of the rural school where Zhao's three teachers were temporarily teaching. The rural school principal told Zhao that the three teachers raised several unreasonable requests, such as asking the rural school principal not to assign teaching tasks to them on Friday because they

wanted to go back to their homes located in the county seat. Zhao felt upset because he thought the teachers had lost the *mianzi* of both Zhao and the County Seat Secondary School as a whole. Zhao said,

> Right after I hung up the call [from the rural school principal], I summoned the three teachers to come to my office right away. Once they arrived, I severely scolded them. I questioned them, "Do you know you are losing my face, the face of our school, and the face of yourself? How impolite you were to raise such unreasonable requests. If I hear anything similar happens in the future, be prepared for some serious consequences." (Zhao, interview 2)

The above example illustrated an interesting role that *mianzi* played in the sense-negotiation process among Zhao, the rural school principal, and the three teachers around how teachers should participate in the urban-rural exchange program. For the three teachers, they seemed to have prioritized the length of time they could spend at home out of respect for their *mianzi* or that of others. For the rural school principal, he was indeed discontent with the three teachers' performance, but he chose not to deal with this issue with the three teachers directly because that might hurt the teachers' *mianzi*. As for Zhao, he used *mianzi* as an instrument to press the three teachers to fulfill their policy obligations.

The *mianzi* culture influenced some other actors' sense-giving activities as well. For instance, both Wang and Dong were worried about losing face when they reported their implementation work in front of their superiors, and thus they tried very hard to make their work performance look "good." As for the principal of Village Primary School Ms. Cao, the *mianzi* culture made her stop spending energy dealing with the exchange teachers in her school to avoid causing unnecessary conflicts. During the 2015-2016 school year, two exchange teachers were working in Cao's school. Cao said she had noticed that the two teachers failed to fulfill their job duties from time to time. For instance, the two teachers sometimes left the school early or arrived late, which made the students of their classes unattended. Cao was dissatisfied with the two

teachers' performance, but she chose not to talk about her dissatisfaction in front of the two teachers. Cao reasoned,

> They [the two exchanging teachers] are just teaching here temporarily. Their labor contracts, teaching positions, salaries, and benefits are still in the charge of their original schools. I don't have any power that I can use to influence them. Therefore, I don't want to create any unnecessary conflicts between us. No matter whether they are doing a good or bad job here, they will be leaving soon. (Cao, interview 2)

As suggested by the examples reported above, the *mianzi* culture in the Chinese society shaped the actors' sense-giving in at least two ways. First, *mianzi* discouraged sense-giving that might cause conflicts between actors (e.g., Cao and the two exchanging teachers in her school). Second, the actors tended to use "saving *mianzi*" as an instrument to shape other actors' thoughts and actions (e.g., Zhao scolded his three teachers).

In brief, this section reported the actors' sense-giving attempts and the factors that influenced sense-giving. Compared to sense-orientation and sense-specification which were mainly accomplished individually, sense-giving entailed greater interpersonal negotiations among policy actors to construct a common plan for the policy implementation work. The data also showed that several factors influenced the actors' sense-giving efforts. These included the policy actors' argumentative strategies, their implementation responsibilities as delineated in the policy documents, the bureaucratic characteristics of the local governance system, and the Chinese *mianzi* culture. Under the influence of these factors in their situated contexts, the actors' sense-giving attempts finally made the targeted policy stakeholders to collaborate to different degrees.

Sense-Adaptation: Adapting Thoughts and Actions According to the Changing Circumstances

This study found that the policy actors' sensemaking was not settled but instead was transforming dynamically in response to the changing circumstances. In particular, this study revealed four environmental factors that could drive policy actors to adapt their senses for implementation. These factors were interim policy outcomes, policy adjustments, local reform agenda, and the phenomenon of Chinese teachers seeming increasingly "selfish" today. These factors jointly pushed the actors to adapt their senses throughout their policy implementation practices.

"Groping the Stones to Cross the River"

Wang, the vice director of the Teacher Affairs Office, used a well-known Chinese saying to describe the winding path of implementing the *Zhihuan* policy. The saying is "groping the stone to cross the river (摸着石头过河)." Wang's experience with *Zhihuan* illustrated how the interim policy outcomes kept informing the actors to adapt their thoughts and actions for implementation (Wang, interview 1).

Starting from September 2012, Ning County started implementing the urban-rural teacher exchange program (i.e., the *Zhihuan* policy). Initially, the policy guidelines regulated that both urban and rural schools should send 10% of their teachers to participate in this program. However, due to the severe teacher shortage problems facing rural schools in Ning County, the Education Bureau decided to revise the program to be a one-way supporting program. In other words, it meant that the revised policy only required urban schools to send 10% of their teachers to support rural schools.

In the beginning, the urban school principals encouraged their teachers to apply for the exchange program on a voluntary basis. As a result, only 17 teachers across the whole county applied. This number was much lower than the Bureau expected. Then, Wang and his colleagues felt the needs of employing more incentives to motivate teachers to participate. Therefore, in the following year (i.e., 2013), the Education Bureau decided to tie the experience of teaching in rural schools as a preferred qualification for professional promotion and awards. Driven by the desire for getting promoted, the number of applicants climbed up to 43 in 2013 and 62 in 2014 respectively. Wang said most of these applicants were the teachers who were planning on applying for professional promotion in the next few years (Wang, interview 2; Information about *Zhihuan* Participating Teachers, 2012, 2013, 2014).

However, the experience of participating in *Tegang* gradually lost its power in privileging teachers in the competitions for professional promotion. Because of the limited quota of professional advancement per year, many teachers who participated in the *Zhihuan* program in early years did not get promoted. This result discouraged the remaining teachers from participating in the exchange program anymore. Consequently, the number of the participants dropped down to 48 in 2015 (Information about *Zhihuan* Participating Teachers, 2015). Then, Wang and his office had to think of other forms of incentives, such as monetary and moral incentives, to try to achieve their original goal of sending 10% urban school teachers to support rural schools each year. Thus, starting from 2015, the Education Bureau decided to reward the teachers who performed well in the exchange program with both a certain amount of money and professional honors. By the end of the 2015-2016 school year, the Bureau organized a meeting to have all *Zhihuan* participating teachers to share their experiences with this policy. The Bureau finally selected three teachers as the role models, rewarded each of them 1,500 Yuan, and an

honor of excellent rural supporting teacher, hoping to motivate the rest of the urban teachers to participate in this program the next school year (Observational notes, 15 June 2016). Wang said,

> We don't know whether the money and the honors we've added [to the incentive scheme of the *Zhihuan* policy] can attract more teachers to apply the next year. We are just "groping the stones to cross the river." (Wang, interview 1)

The series of adaptations that Wang made for realizing *Zhihuan*'s intended goal suggested that the policy implementation was not a linear or once-and-for-all event. Instead, the actors had to frequently use the "stones," or the interim implementation outcomes, to revisit and revise their implementation strategies to approximate their intended goals.

The Policy Adjustments Influenced the Actors' Sense Adaptation

Policy is not a static thing but a fluid process (Howlett, Ramesh, & Perl, 2003). The three teacher policies concerned in this study also modified their interventions and regulations several times, which had contributed to the actors' sense adaptations as well. For instance, from 2010 to 2016, Ning County received a growing number of PD resources from the *Guopei* policy. Dong, who was in charge of implementing *Guopei* in Ning, said as follows,

> We received 15 seats[13] [of the *Guopei* programs] in 2010, but the number climbed up to more than one hundred this year [2016]. From the growing amount of resources that our nation has been putting into rural education, we see the firm resolution that the government has for bettering rural education. As a local policy implementer, I feel a greater sense of responsibility for carrying out the policy well. My superior often told us that we should not fall short of our nation's high expectation for us. (Dong, interview 2)

More policy resources often mean greater obligations for policy actors. When Dong received greater resources from *Guopei*, he seemed to have developed a stronger sense of responsibility for his implementation work, which revealed the link between policy adjustment and the actor's sense adaptation. Such a connection was also evidenced in the three school

[13] I use "seat" to refer the opportunity of attending Guopei programs. One seat means one teacher can participate in a Guopei program.

principals' experiences with the *Guopei* policy. The principals all noticed and appreciated for the expanding PD opportunities they had been receiving from *Guopei* in the past years. For instance, Zhao said, "As far as I know, this policy [*Guopei*] is one of the few policies that our teachers and school administrators unanimously advocate." (Zhao, interview 1)

Feng also adapted his perceptions about the *Tegang* policy, partially owing to the different required qualifications that *Tegang* used for recruiting teachers in 2016. In the past few years, anyone with a bachelor's or higher degree was eligible for applying to *Tegang* positions. However, in 2016 the *Tegang* policy added two more required qualifications: first, the applicants must have a teacher certification, and second, the applicant's college major should match the subject of the teaching position they apply. Soon after he started working with the 2009 cohort of *Tegang* teachers in Ning's schools, Feng noticed the misalignment between many teachers' educational backgrounds and their teaching positions. This misalignment caused several problems to Ning's teacher workforce, such as the teachers' intense struggles at the beginning, and many of them had low degrees of professional satisfaction. One the one hand, Feng favored this policy because it helped Feng and his office to send more teachers to Ning's high-need rural schools. On the other hand, the problems that occurred in the first cycle of implementation led Feng to be concerned about the long-term impact of *Tegang* on Ning's teaching force. However, after Feng saw these two additional required qualifications in the 2016 *Tegang* policy document, his concern was eased,

> Teaching is a work that entails specialized expertise. I don't think someone with an English degree can teach mathematics well. I was very glad seeing that the policy [*Tegang*] has made a right move to requiring applicants to have the educational backgrounds aligned with their targeted teaching positions. It makes much more sense. (Feng, interview 2)

Feng was initially attracted by the financial incentives offered by the Teagang policy. Though Feng doubted the effectiveness of *Tegang* in the middle of his implementation, *Tegang*'s more stringent regulations on applicants in 2016 let Feng see the potential of *Tegang* for improving the quality of rural teacher workforce. Feng's changing opinions on *Tegang* illustrated the role of policy adjustments played in shaping policy implementing actors' sense-adaptation process.

The Shifting Reform Agenda Pushed the Actors to Adapt Their Senses for Implementation

As part of the undergoing anti-corruption campaign in China, the governmental officials above certain levels are required to rotate their job positions to prevent them from developing their own interest group which can often lead to corruption (Zeng, 2015). The head of Ning County Government is one such position. The official who sits in this position is usually replaced by a different official every five years. Because of the political culture in the local context, the County Head's personal preferences and leadership styles can largely determine the reform agenda of this county. Thus, if a newly inaugurated county head holds a reform agenda different from that of her/his predecessor, the head's subordinates have to re-configure their thoughts and actions for their work. This was the situation occurred to the policy implementing actors in this study.

In 2012, a new official replaced the previous county head. Feng said the former head emphasized education in his broad agenda of reforming and developing Ning County. With the support of the county head, Feng and his office decided to formulate a radical policy intervention to equalize Ning's teacher workforce—the urban-rural teacher exchange program. Initially, Feng and his colleagues set ambitious goals for this policy (e.g., 10% of all teachers should exchange, and the exchange is bilateral between urban and rural schools) because they assumed that they

would receive enough support from the county head to realize those goals. However, right after their first round of implementing this policy in 2012, a new official with a lower interest in reforming education replaced the former county head. Because of the shifting focus of the reform agenda, Feng and his office could no longer get as much support from the county head as they could in the past to fulfill the original goals they set up in 2010. Feng said,

> To realize our original goals, we need the support from the Finance Bureau and the Personnel Bureau in our county. However, our new head seems to care more about the economy rather than education, so that kind of support is no longer available to us. We have to lower our expectation for the implementation outcomes. (Feng, interview 2)

Feng and his colleagues not only lowered their expectation but also started exploring alternative interventions (e.g., additional material and honorable incentives) to promote the implementation of the exchange program.

Among the six participants in this study, the three officials working in the Education Bureau (i.e., Feng, Dong, and Wang) were technically the superiors of the three school principals (i.e., Zhao, Yuan, and Cao). Each of the county-level officials had their respective agendas about how to improve Ning's teaching force, and their agendas transformed over time as well. Any changes in the three county-level officials' agendas also triggered the sense adaptations of the three principals. For instance, under Feng's direction, Ning County mainly relied on the traditional recruitment approach (i.e., Ning County hired teachers on their owns) during 2010 and 2015. During that time span, the three school principals were equally eligible for requesting teachers from Feng's office. However, being attracted by the financial benefits offered by the *Tegang* policy, Feng shifted his approach of staffing schools to alternative hiring in 2016. Because *Tegang* targets rural schools only, Zhao's school, which resides in the well-developed county seat, became disqualified for requesting teachers in 2016. This shift privileged Yuan and Cao in asking for more teachers for their rural schools. Feng's shifting of his teacher hiring

approach caused the three school principals to adapt their senses of implementing the *Tegang* policy. Zhao, Yuan, and Cao reacted to this shift as follows,

> Well, it doesn't matter that we cannot get *Tegang* teachers. To be honest, we have more teachers than we need. You know, many rural teachers want to transfer to our school, and many of them had made it happen with their ways, such as *guanxi*. (Zhao, interview 2)

> It's a must-seize opportunity for our school. I soon submitted my request of five teachers to Feng after I got the notification from him. (Yuan, interview 3)

> It certainly is a good policy for rural schools like us. We severely lack teachers, and I requested five teachers. I even made several personal calls to my friends in the Education Bureau, hoping to know more information about it and to see if there's anything I could do to increase our chance of getting the teachers we requested. (Cao, interview 3)

These responses suggested that the three principals all edited their senses about the approaches and possibilities of getting teachers from the Education Bureau in light of Feng's switching to alternative teacher hiring.

In brief, Feng's experience with the *Zhihuan* policy and the three school principals' experiences with the *Tegang* policy jointly illustrated that a shifting reform agenda led to the policy actors taking up differing attitudes and approaches towards implementing the same policy.

"Selfish" Teachers Challenged the Actors' Commitment to Enhancing Equity

Most of the policy actors mentioned an emerging phenomenon in the local teacher workforce: teachers are getting increasingly more "selfish" than in the past. The traditional Chinese culture characterizes teachers as a self-sacrificing role model with a high standard of morality. For instance, the following two verses written by Li Shangyin, a distinguished poet in the Tang Dynasty, are widely used to describe what a good teacher should look like even today.

> A silkworm exhausts its silk till death (春蚕到死丝方尽)

> A candle burns itself out to give light (蜡炬成灰泪始干)

In the past, the society expected teachers to be sacrificing, self-giving, and highly moral. Therefore, teachers often felt ashamed to claim openly that they want to pursue their own interests. However, since the beginning of the "Reform and Open" economic reform in 1978, China has experienced an unprecedented economic development that has significantly improved the living conditions of Chinese people. Influenced by new social discourses around economy, growth, and mobility, to pursue a better socio-economic status has become a legitimate or even admirable life goal that Chinese people, even teachers, can disclose publicly. Therefore, rural school teachers who have higher degrees, better student learning outcomes, or more powerful *guanxi* would actively pursue moving "upwards" to better-resourced urban schools. That teachers care about social mobility more than educational equality is no longer a new phenomenon in the teacher workforce. Many scholars (e.g., Liao & Yuan, 2017; Wang & Gao, 2013) argued that teachers becoming increasingly aware of their own interests is a major cause for the widening educational disparities between urban and rural schools in China. Though all three teacher policies examined in this study are aimed to channel quality teachers to high-need rural schools, the research participants' implementation experiences showed the difficulties in realizing this goal. Due to the teachers' high preferences for urban areas and the insufficient incentives provided by the three policies, the policy actors were quite uncertain about how much these policies could help equalize Ning's teacher workforce. For instance, Wang said,

> Nowadays, teachers are not as sacrificing as they were in the past. Well, I think every teacher has the right to choose which school to teach, and where to teach. Also, it's understandable that the teachers want to teach in urban schools so that they can have a better life. However, as an official in the Education Bureau, I should not just see more and more good teachers fleeing our rural schools. We need to do something. But, so far, I don't think the incentives we offer to our teachers through these policies [*Tegang* and *Zhihuan*] are enough for motivating good teachers to work in rural schools for a long term. Sometimes, I feel pretty helpless about it. (Wang, interview 2)

According to Wang, he was committed to creating a more equally distributed teacher workforce, but the teachers' strong desire to working in well-developed urban areas posed serious challenges to his implementation work. Similarly, Principal Zhao also felt that today's teachers were becoming less "moral" than before. Zhao received severe resistance from his teachers when he was trying to select teachers to participate in the urban-rural exchange program. One the one hand, Zhao felt disappointed about the small number of teachers who applied for this program at the beginning. Zhao primarily attributed these teachers' resistance to them prioritizing personal interests. Zhao said today's teachers were quite different from the teachers back in the 1980s when he just started his teaching career. On the other hand, Zhao also felt that these teachers' intent of pursuing private goods was reasonable (Zhao, interview 2). Compared to Zhao, Principal Yuan even supported the idea that teachers should pursue their individual interests. Yuan's school received 5 *Tegang* teachers in 2009, but three of them left for better-resourced urban schools in subsequent years. Yuan said,

> I was happy for those teachers when they told me that they found a teaching job in a better school in the county seat or even larger cities. Yes, my school needs good teachers like them, but I think it's unfair to keep them here if they can move upwards to a better place. (Yuan, interview 2)

In the first place, almost all policy actors in this study were passionate in implementing these teacher policies because they believed their work could help improve Ning's teacher workforce. After they experienced a wide range of difficulties in their implementation work, some of them started to doubt the effectiveness of the policies. While some actors (e.g., Zhao, Wang) blamed the "selfish" teachers as the primary cause of the difficulties, some others (e.g., Feng, Yuan) attributed the implementation challenges to the structural inequality existing in Chinese education and society for long. Since systemic and structural changes were unlikely to happen in a short time, the policy actors' initial passions gradually diminished. As a result, the

policy actors started to view the teacher policies they were implementing as contingent solutions to the problems in Ning's teacher workforce.

In sum, sense-adaptation is the fourth sensemaking activity evidenced in the six policy actors' implementation experiences. The policy actors' senses about the three teacher policies transformed over time under the influence of a set of factors. These include the policy actors' continuous absorption of the interim policy outcomes, the adjustments of policy interventions, the shifting local reform agenda, and the structural inequity as manifested by many rural teachers fleeing to better-resourced urban schools. The many and various kinds of sense adaptation efforts had helped the policy actors construct fluid perceptions about policy and policy implementation.

How Can the Four Sensemaking Activities Extend Our Knowledge Boundaries?

Using examples from multiple sources of data, I have portrayed four sensemaking activities (i.e., sense-orientation, sense-specification, sense-giving, and sense-adaption) that emerged from this study. These findings confirm and have the potential to extend the existing boundaries of knowledge about sensemaking in policy implementation.

First, the research findings reported in this chapter confirm several general characteristics of sensemaking that have been documented in the literature. Theoretical studies on sensemaking contend that sensemaking is not only a cognitive process but also reflected in sense-makers' actions (e.g., Maitlis, 2005; Taylor & Van Every, 2000; Weick, 1995; Weick et al., 2005). The experiences of this study's participants support this contention. For instance, while Mr. Zhao was continuously trying to make sense of his teachers' resistance to the *Zhihuan* policy, he was also taking a variety of actions (e.g., talking with teachers, negotiating with the Education Bureau) to better understand why the teachers did not want to participate. Furthermore, this study also has identified a series of specific actions that policy implementing actors take to make senses. These

include counting on policy documents as an important source of information for orienting the senses, purposefully "whining" when developing specific implementing schemes, using multiple argumentative techniques to give senses to others, and "groping the stones" (i.e., the trial-and-error approach) to revise the senses for policy implementation.

Previous studies also found that fluidity is another foundational characteristic of sensemaking (Cornelissen, 2012; Hernes & Maitlis, 2010; Weick, 1995). In other words, sensemaking is not a once-and-for-all event but an ongoing process (Maitlis, 2005). My research findings support this claim as well. None of the policy actors in this study said that their sensemaking efforts ceased, nor did I see any evidence of that. Instead, they were constantly absorbing new information and revising their senses throughout their implementation work. A telling example can be Feng's sense of the *Tegang* policy shifting from embracing this policy to doubting it after he had seen *Tegang*'s side effects on Ning's teacher workforce.

Also, the four sensemaking activities characterized in this study can contribute to the conceptualization of policy actors' sensemaking process. A few prior studies (e.g., Weick et al., 2005; Maitlis, 2005) have attempted to unpack the sensemaking process. For instance, Maitlis (2005) decomposed the sensemaking process into four types: guided sensemaking, restricted sensemaking, fragmented sensemaking, and minimal sensemaking (p. 32). These categories provided a useful reference for grouping sensemaking by how much flexibility that sense-makers have, but they still cannot tell us what particular activities or tasks constitute the sensemaking process and further lead to the accomplishment of understanding. Different from the existing conceptualizations of sensemaking process, the four sensemaking activities found in this study focus more on the procedures of sensemaking. These four categories collectively form a narrative of the sensemaking process: sensemaking starts with sense-orientation, develops

through sense-giving, spreads by sense-giving, and is revised through sense-adaptation. This sensemaking protocol by no means implies that each policy actors should or will go through each of the four activities one after the other. Neither do the findings indicate that these are all the sensemaking tasks that policy actors undertake. But I argue this new conceptualization of sensemaking process can serve as a theoretical reference for future studies to further explore the nuances and complexity in sensemaking process.

Second, the research findings also resonate with previous studies that focused on the roles of individual characteristics in sensemaking. "Existing cognitive structure" is an individual characteristic that has been found to be consequential to sensemaking (Coburn, 2005; Spillane et al., 2002; Vaughan, 1996). The research findings support previous studies' conclusion that existing cognitive structure matters. This study steps further and identifies two specific elements of the cognitive structure that matter. These are early life experience and work experience. For instance, Feng grew up in a rural family and had worked in rural areas for years before he came to assume a leadership role in the county seat. These early life experiences had been incorporated into Feng's cognitive structure. When he was making sense of *Tegang*—a policy exclusively targeting the rural contexts, Feng could relate this policy to his early life experience in a rural community. He could also develop a sense of commitment to using this policy to improve the teacher workforce in the place that he came. The "city boy" Wang was also implementing the *Tegang* policy. But different from Feng, Wang seemed to perceive the implementation work as a job rather than a mission.

Work experience was another cognitive element that I found influential on sensemaking. For instance, because of her early experience working as a Daike teacher, Cao was able to draw on that prior knowledge to develop a quick understanding of the *Tegang* policy which was

similar to Daike. Similarly, because Yuan had known several *Tegang* teachers in his previous school administration experience, he was able to draw on that experience to make a quick sense of *Tegang*. A counterexample is Zhao's disappointment with his teachers' getting increasingly "selfish." Based on his teaching experience back in the 1980s, Zhao believed that teachers should be self-sacrificing and must feel ashamed of publicly pursuing personal interests. However, such a belief did not match the working culture/ethics that many teachers held today. Lacking a common understanding with today's teachers, Zhao was getting quite upset and disappointed when the teachers resisted "sacrificing" themselves to support rural schools through the *Zhihuan* policy.

Though previous studies also found that gender was another personal background that can shape sensemaking (e.g., Grisoni & Beeby, 2007), my findings cannot lead to robust conclusions regarding the role of gender in sensemaking. This study did find that Cao, the only female policy actor in my sample, appeared to be the least powerful and also the most marginalized actor among the six participants. For instance, she had limited resources or power to ask for others' collaboration. Cao even felt reluctant to deal with the non-professional conducts of the exchange teachers in her school because Cao did not have sufficient institutional tools to do so. Some might argue that the "weak" features she demonstrated in her sensemaking and policy implementation might be associated with her gender as a female. Nevertheless, other factors also might have contributed to her powerlessness, such as her institutional role as the subordinate to the county-level actors and as the principal of a small, distant, and under-resourced village school.

Third, the findings speak to previous studies' conclusion that policy signals matter to sensemaking (e.g., Syahril, 2016; Blignaut, 2008; Coburn, 2005; Spillane et al., 2002). My study

extends this conclusion in two ways—what interventions would lead to "Aha, it makes sense", and how sensemaking can modify policy signals. The three policies investigated in this study are loaded with different policy signals, namely the alternative hiring, professional development, and teacher exchange. Nearly all the actors in this study could quickly make sense of the logic of the professional development policy (i.e., *Guopei*). However, the actors involved in implementing the teacher exchange program (i.e., *Zhihuan*) continuously had a difficult time in understanding how realistic this policy could be in reshaping the teacher workforce. As for the alternative hiring policy (i.e., *Tegang*), the policy actors constructed different understandings about it over time. For instance, in the beginning, Cao established a sense that the goal of *Tegang* was to support high-need rural schools such as the one she was working. But, such a sense was broken down after her request of *Tegang* teachers was not met at all. By comparing these suggestive connections between policy signals and the policy actors' sensemaking, I contend that signals such as benefits (e.g., *Tegang*'s financial incentives), support (e.g., *Guopei*'s professional support), and development (e.g., *Guopei*'s notion of developing rural teachers professionally), are more conducive to sensemaking as opposed to the signals of radical change (e.g., *Zhihuan*'s idea of dislocating teachers) and personal sacrifice (e.g., *Zhihuan*'s underlying logic of having certain teachers to sacrifice).

The research findings also suggest that sensemaking in return can modify policy signals. For instance, Feng reframed the financial incentives provided by the *Tegang* policy as an approach to alleviating the financial burden of the Ning County when he was trying to give sense to the county head. Dong and the three school principals all re-interpreted the PD opportunities offered by *Guopei* as an additional administrative tool for motivating teachers. Zhao also characterized *Zhihuan*'s signal of exchange as a symbol of testing teachers' morality as well as

saving the *mianzi* of his school and himself. These examples together suggest that policy signals are fluidly constructed and re-constructed by policy actors.

Fourth, this study contributes a portrait of how policy actors make sense of policy implementation in a highly bureaucratic context, a type of context which barely has been examined in the literature. Compared to more locally controlled governance system in some other countries (e.g., United States), China's governance system is highly centralized. This means local policy actors have limited power to decide what policies to implement and how to implement them (Saich, 2015). However, this study found that the local policy actors were still actively shaping the implementation process and even outcomes via their sensemaking efforts. Some of the actors consciously or unconsciously perpetuated the bureaucratic system by complying with the rules. For instance, Dong said he strictly adhered to policy regulations so that he would not be publicly "blamed" by his superiors at the Province Government. Some other actors were actively trying to "game" the system. For example, Feng, Yuan, and Cao all purposefully exaggerated their teacher workforce problems, hoping to enhance their chances of getting what they wanted from their superiors in the hierarchical system. Resonating with many previous studies (e.g., McDermott & Allen, 2015; Cohen, 1990), these findings indicate that local policy actors are not "puppets" but active agents who can shape how things are enacted on the ground, even in a bureaucratic environment like where this study's participants worked.

Lastly, the research findings highlight the influence of culture on sensemaking. The existing sensemaking literature has predominantly focused on organizational contexts. However, by using sensemaking theories cross-culturally, my study revealed how the Chinese culture influenced the participants' sensemaking in their policy implementation. The cultural concepts of *guanxi* and *mianzi* provided the policy actors additional protocols for navigating the sensemaking

process. For instance, Zhao scolded his "misbehaving" teachers not only because those teachers broke *Zhihuan*'s policy regulations, but they also hurt the *mianzi* of County Seat Secondary School. The cultural logic of *mianzi* intensified Zhao's reaction to teachers' unprofessional behaviors and led Zhao to take a blunt and fierce way to deal with it. That Yuan using *guanxi* to justify his favoritism is another example that manifests how culture shapes sensemaking. Yuan broke *Guopei*'s requirements of selecting teachers to favor his friend's daughter. But he used "*guanxi*" as a cultural logic to justify his rule-breaking as a "common practice" many people would do and accept in the local society. These findings together suggest that culture is another contextual factor worth exploring further in future policy studies.

Summary

This chapter reports the findings of the process of policy actors making sense of policy implementation. Four types of sensemaking activities, namely sense-orientation, sense-specification, sense-giving, and sense-adaption emerged from the data. By doing these sensemaking activities, the actors had successfully obtained a general sense of direction, developed specific schemes for implementation, negotiated collective meanings with others, and formed a fluid perspective for seeing and doing policy implementation. The actors' sensemaking process was shaped by a variety of factors, including the actors' characteristics (e.g., prior experience), policy signals (e.g., incentives, regulations), organizational features (e.g., bureaucratic governance system), and socio-political discourse (e.g., *mianzi* and *guanxi* cultures). While all these factors had contributed to the actors' making sense of their implementation work, the roles that they played varied across different actors, policies, and types of sensemaking activities. Though the actors' sensemaking was small and subtle, it had caused large

consequences on the actors' implementing behaviors and further on the policy impact. I report the consequences of the actors' sensemaking in detail in the next chapter.

CHAPTER 5

LARGE CONSEQUENCES: THE RIPPLE EFFECT OF SENSEMAKING

The policy actors' sensemaking was subtle, but it caused large consequences through a ripple effect. In particular, the actors' sensemaking influenced their attitudes towards education reforms, their attitudes further changed their implementation behaviors, and their implementation behaviors influenced the ultimate impact of the policies. In this chapter, I first report three "senses" (i.e., of relevance, feasibility, and effectiveness) that each of the policy actors gained through their sensemaking efforts. Then, I draw on the interview findings to illustrate how different combinations of the three senses led to the actors' attitudes about implementation. Next, I examine the link between the actors' attitudes and their implementation behaviors. Finally, I report the ultimate policy impact on the targeted teachers, and in what ways the impact was attributable to the actors' implementation behaviors. This chapter concludes with the argument that policy actors' sensemaking plays a vital role in shaping policy implementation process and outcomes.

What Sensemaking Directly Leads To? —Three Senses

Chapter 4 portrays four socio-cognitive activities for making sense of policy implementation, but it is still unclear what those activities do for the policy actors. An easy answer to this question would be that they allow an actor to think, "Yes, it makes sense," or "No, it doesn't make sense." But, the research findings suggested that what the policy actors had achieved through sensemaking was way more complex than that. The direct accomplishment of sensemaking was three "senses" related to policy implementation. These were their understanding of (their "sense") of the policy's *relevance*, *feasibility*, and *effectiveness*. The sense of relevance indicated the extent to which the policy actors felt the policies were related to

their existing work. In terms of the sense of feasibility, it was about how feasible the actors thought it would be to carry out the implementation tasks. Lastly, the sense of effectiveness was the policy actors' anticipation of the effectiveness of the policies for tackling the targeted problems.

Qualitative analysis of the interview data captured variations in the actors' sensemaking, what we might see as outputs of sensemaking. For example, based on the actors' evaluative remarks about the policies, I categorized actors' senses of relevance into a yes-or-no binary. While "yes" indicates that an actor feels the policy is relevant to his/her work, "no" means that s/he feels implementing the policy is not her/his business. As for the sense of feasibility, the actors' responses fall into either the "high" or the "low" group. Here "high" and "low" are mainly defined in the norm-referenced sense. In other words, an actor who is labeled as having a sense of high feasibility means that, compared to some other actors involved in the same policy, she or he considers the policy highly feasible to implement. Accordingly, the other actors are labeled as "low" on the "feasibility" indicator. Similarly, actors are categorized into either the "high" or the "low" group based on their senses of policy effectiveness. While the sense of high policy effectiveness indicates that the actors believe the policy would be highly effective in tackling the targeted problems in the teaching force, the actors in the "low" group deem the policies as unlikely to work as the policy intends. Tables 7-9 list the senses of relevance, feasibility, and effectiveness about the three policies that the actors arrived at through their sensemaking efforts.

Table 7. *Tegang* policy actors' sensemaking outputs and attitudes

	Role in implementation	Sensemaking outputs			Attitudes
		Relevance	Feasibility	Effectiveness	
Feng	County-level actor (director)	Yes	High	High to Low	Embracing to Doubting
Wang	County-level actor (vice director)	Yes	High	High to Low	Embracing to Doubting
Yuan	School-level actor (township)	Yes	High	High	Embracing
Cao	School-level actor (village)	Yes	High	High to Low	Embracing to Doubting

Table 8. *Guopei* policy actors' sensemaking outputs and attitudes

	Role in implementation	Sensemaking outputs			Attitudes
		Relevance	Feasibility	Effectiveness	
Dong	County-level actor (director)	Yes	High	High	Embracing
Zhao	School-level actor (county seat)	Yes	High	High	Embracing
Yuan	School-level actor (township)	Yes	Low to High	High	Resisting to Embracing
Cao	School-level actor (village)	Yes	Low to High	High	Resisting to Embracing

Table 9. *Zhihuan* policy actors' sensemaking outputs and attitudes

	Role in implementation	Sensemaking outputs			Attitudes
		Relevance	Feasibility	Effectiveness	
Feng	County-level actor (director)	Yes	High to low	High to Low	Embracing to Doubting
Wang	County-level actor (vice director)	Yes	Low	Low	Doubting
Zhao	School-level actor (county seat)	Yes	Low	Low	Resisting
Yuan	School-level actor (township)	Yes	Low	Low	Resisting
Cao	School-level actor (village)	Yes	Low	Low	Resisting

Sense of Relevance

The "relevance" columns in these tables show that all the actors felt related to the policies they were implementing. The actors' senses of relevance primarily resulted from their sense-orientation efforts. For instance, Feng said,

> My office is responsible for all the personnel affairs related to teachers in our county, such as recruiting new teachers, managing teachers' contracts, and evaluating their performance. Since *Tegang* is a teacher hiring policy, implementing it naturally became my business. (Feng, interview 1)

Zhihuan is a teacher exchange program, and implementing it entails a lot of work pertinent to teachers' personnel affairs, such as collecting participating teachers' employment information, pairing teachers across schools, and evaluating teachers' performance in their exchanging schools. Therefore, Feng became responsible for the implementation of *Zhihuan* as well. Consequently, Wang as the direct subordinate of Feng also got involved in these two policies. Wang and Feng both became aware of their relevance with *Tegang* and *Zhihuan* through their sense-orientation in the light of policy signals and their institutional roles.

The school-level actors also developed their senses of relevance with *Tegang* and *Zhihuan*. While the principals of all schools in Ning County, including the three principals in this study, were asked by Feng to participate in the *Zhihuan* policy, only rural school principals (particularly Yuan and Cao in this study) were involved in the implementation of *Tegang*, because *Tegang* particularly targets schools in rural areas, such as underdeveloped townships and villages. For instance, when I asked "How many *Tegang* teachers do your school have?" to Mr. Zhao, the principal of the County Seat Secondary School, in the first interview, he immediately replied, "No, we don't have *Tegang* teachers. *Tegang* is just for rural schools, not for us" (Zhao, interview 1). Zhao's reply suggested that he had not developed a sense of relevance with *Tegang*

mainly because his school was not within the scope of *Tegang*. Thus I did not list Zhao in Table 7 which is about the *Tegang* policy.

As for *Guopei*, the county-level actor Dong and the three school principals all obtained a sense of relevance with this policy through their sense-orientation endeavors. For instance, Dong was the director of the Teacher Professional Development Office at the Education Bureau of Ning County. Dong's primary job duty was to enhance the teaching capacities of school teachers through professional development programs. Thus, when the *Guopei* policy arrived at Ning County, the head of Education Bureau immediately assigned the implementation work to Dong because *Guopei*'s focus on teacher professional development exactly matched Dong's job responsibilities. Through Dong's sense orientation with the information he obtained from his superior and the policy signals, he realized that *Guopei* would be an important part of his work in the future. As a result, Dong successfully established a sense of relevance with the *Guopei* policy. As for the three principals, one of their most major tasks was to create learning opportunities for their teachers' professional growth. Thus, they all eventually became involved in selecting teachers to participate in *Guopei* PD programs, and the relevance the three principals felt for the *Guopei* policy was built up.

Sense of Feasibility

In contrast to the unanimous sense of relevance, the actors developed differing senses of feasibility about the policies they were implementing. As shown in Tables 7-9, all the actors involved in *Tegang* felt this policy highly feasible to carry out; as for *Guopei*, the county-level director and the principal of County Seat Secondary School thought this policy was feasible to implement, while the two rural school principals altered their senses of feasibility from low to high; except the policy director Feng, all the actors of *Zhihuan* considered this policy difficult to

enact, but Feng also came to join the rest of the actors after implementing it for a period. It is primarily the actors' sense-specification and sense-giving experiences that helped them obtain their senses of feasibility about the policies.

The major implementation tasks that the local actors of *Tegang* were asked to undertake were relatively technical, such as filing application forms for *Tegang* teachers, distributing the teacher quota[14] approved by the provincial government, and completing employment paperwork for the newly hired *Tegang* teachers. These tasks were similar to the routine work that the actors had already been doing for a long time. Therefore, when the actors were using sense-specification to develop a clear picture of their implementation work, they could easily make sense of what they were supposed to do and integrate the implementation work into their routine work. For instance, Yuan said, "You know, as a principal I need to fill out many forms every day. To fill out one more form [for the *Tegang* policy] did not make any big difference to me" (Yuan, interview 1). In addition, implementing *Tegang* was coupled with the incentive of receiving additional teachers. The implementing actors could use this incentive to motivate others to cooperate and implement *Tegang*. For instance, Feng successfully persuaded his superior, the head of the Education Bureau, to buy in the idea of applying for *Tegang* teachers by stressing the considerable financial incentives that their county would obtain from implementing this policy.

The major task of implementing *Guopei* was to distribute educational resources (professional development opportunity). While *Tegang* sends new teachers to schools, *Guopei* takes in-service teachers out of schools for PDs. Therefore, the principals of hard-to-staff schools

[14] In China, educational resources are usually distributed from the top of the governance system to the bottom. For instance, the national government assigns certain amount of resources to each of the provinces. Then, each province continues to distribute the resources they have received to the prefectures under their governance. Furthermore, each prefecture distributes what they have received to the lower-level countries, towns and villages.

(such as the Township Middle School and Village Primary School in this study) needed to make extra efforts to implement *Guopei* because they had to find substitute teachers to cover the vacancies left by the teachers who were selected to participate in *Guopei* programs, which were often weeks or months long. As for the county-level actor Dong, he did not need to make this extra effort because staffing specific schools was not his responsibility. Thus, Dong deemed the *Guopei* policy fairly feasible to implement. Mr. Zhao, the County Seat Secondary School principal, needed to consider how to staff his school, but he still considered implementing *Guopei* not a problem because his school had more teachers than they actually needed.

However, when the two rural school principals (i.e., Yuan and Cao) were initially specifying their senses for implementing *Guopei*, they immediately realized a barrier: their shortage of teachers. For instance, when Mr. Yuan, the principal of Township Middle School was asked by the Education Bureau to select several teachers from his school to participate in a *Guopei* program, Yuan said the first question popped up in his mind was "how could I fill the vacancies that would be left by the teachers I am going to select?" (Yuan, interview 1). Because of the extra efforts they would have to make, the two rural school principals initially considered the *Guopei* policy difficult to implement. However, because of their inferior status in the local governance system, they had to follow the order from the Education Bureau even if they thought the order created problems. Then, Yuan and Cao started to seek staffing strategies that would help them cover the teaching workloads of the teachers temporarily leaving for professional development. Finally, Yuan and Cao successfully worked out several strategies to cover the teaching vacancies, such as increasing the workloads of the remaining teachers, and having intern teachers or hiring temporary teachers to substitute for the teachers who left for professional development. Though initially they faced difficulties in sending teachers to

participate in *Guopei*, Yuan and Cao eventually realized the positive impact that *Guopei* could have on their schools in the long run. They both agreed that the participating teachers helped their schools stay abreast of the new pedagogical thought and strategies. Also, through subsequently organizing training for other teachers, the participating teachers developed their leadership skills and helped establish professional learning communities for all teachers (Yuan, interviews 2 & 3; Cao, interviews 2 & 3). Because of these positive influences, Yuan and Cao eventually altered their senses of feasibility about the *Guopei* policy from "low" to "high."

Zhihuan was perceived as the least feasible among the three policies. In contrast to *Tegang* and *Guopei,* which adopted a resource-supplying approach to tackling the urban-rural teacher quality disparity, *Zhihuan* attempted to redistribute teachers across urban and rural schools. Initially, *Zhihuan* mandated that each year at least 10% of urban and rural school teachers exchange their teaching positions for a three-year period. When the actors started to develop a specific scheme for implementing this policy through sense-specifying and sense-giving, most of them realized how difficult it would be. For instance, Mr. Zhao said he had an annual headache in persuading sufficient numbers of teachers to participate in the exchange program (Zhao, interview 2). Similarly, Mr. Yuan and Ms. Cao also complained about their powerless and reluctant stance in managing the urban teachers who were transferred to their schools, given that the exchange teachers were still officially affiliated with their original schools (Yuan, interview 3; Cao, interview 2). Even Wang, who was executing this policy at the county-level, was pessimistic about the feasibility of *Zhihuan* because of the predictable resistance from the teachers and schools (Wang, interview 2).

Feng, who was directing the implementation of *Zhihuan* at the county level, was the only one who believed this policy was feasible in the first place. Feng thought he could use various forms of power he had to make the teacher rotation possible. For instance, Feng said,

> I think rotating the teachers is maybe the most direct way of equalizing teaching force. I really advocated this model at first. We did predict teachers' resistance before we rolled out this policy, but I felt that was the "right" direction and we could use a bunch of incentives, such as subsidies, promotion, and awards that my office had control to successfully motivate the teachers to participate in the exchange program. (Feng, interview 2)

However, Feng's sense of high feasibility was eventually altered by the difficulties in his negotiation with school principals. While some participating teachers did wholeheartedly devote themselves to the work in rural schools, many others took on a variety of coping strategies trying to escape from working in rural schools as they were supposed to. After bumping into the tough reality for a while, Feng had to admit that the *Zhihuan* policy seemed too radical to be fully implemented at the time.

Sense of Effectiveness

The actors also developed differing senses of policy effectiveness, which were primarily derived from the actors' sense-adaptation efforts. As illustrated in Tables 7-9, at the beginning all the actors of *Tegang* felt this policy was highly effective in tackling teacher shortage and quality issues, but most of them lowered their sense of effectiveness after implementing it for a period of time; all the actors of the *Guopei* policy consistently agreed that *Guopei* was highly effective in enhancing teacher quality; in contrast, almost all the actors of *Zhihuan* developed a sense of low effectiveness regarding this policy, though the director Mr. Feng initially thought it would be a highly effective policy in closing the urban-rural teacher quality gap.

All four actors of *Tegang* initially thought this policy would be effective in improving both the quantity and quality of rural teachers, because *Tegang* was aimed to recruit more well-

educated college graduates to teach the high-needs rural schools. However, several unintended issues came up after the first cohort of *Tegang* teachers was recruited in 2009. A considerable portion of those teachers transferred to other well-developed schools or simply left the teaching profession altogether. Those who still stayed in their original schools demonstrated limited to no commitment to teaching in rural schools for long, which posed further negative impact on the quality of their teaching and students learning. Therefore, in 2016 when Mr. Feng and Mr. Wang, the two county-level actors, were assigned to implement the *Tegang* policy in Ning for the second time, they lowered their expectation about the policy's effectiveness. For instance, Wang said,

> To be honest, I am pessimistic about the outcomes we would be able to make [through implementing *Tegang*]. The challenging living conditions of rural schools, and the insufficient incentives that could be provided by the policy and the local government made it very difficult to retain high-quality teachers there. I have observed many *Tegang* teachers we hired in 2009 left their original rural schools. I think this policy might mitigate the unequal distribution of quality teachers between urban and rural school, but I don't think it can solve the problem. (Wang, interview 2)

As for the two rural school principals, Yuan consistently deemed *Tegang* effective since his school received the requested number of teachers in both the first and the second time of implementation, but the Village Primary School's principal Cao changed her judgement of *Tegang*'s effectiveness from "high" to "low" after she found that her school did not receive any *Tegang* teachers in the recent round of quota distribution in 2016.

Differently, both the county-level and school-level actors of *Guopei* consistently considered this policy highly effective in enhancing teacher's professional capacities. All the actors seemed to have witnessed the positive impact that this policy had on the participating teachers. Mr. Zhao, for instance, shared one of his observations of the positive impact as follows,

> Ms. Yan is a leading mathematics teacher in my school. She participated in a math PD program in Nanjing University last year. After Yan came back, she was thrilled telling us

> that she was impressed by the "flipped classroom" stressed in the PD program. Then I asked her to share what she learned with other teachers through a lecture. Afterwards, she prepared a demonstration lesson trying to embed the philosophy of "flipped classroom" in the class design. I heard a lot of good things about that class from other teachers thereafter. (Zhao, interview 1)

In addition, participating in *Guopei* programs could bring the teachers an unanticipated bonus. The bonus was that the teachers could have the opportunities to do some sightseeing in the cities where the PD programs were held. Though sightseeing was not explicitly related to the teachers' professional development, it partially led many participants of *Guopei* programs to develop a positive view of the policy.

Finally, all the actors of *Zhihuan* eventually came to see this policy as an ineffective attempt to equalize teacher quality across urban and rural schools. Many school principals found it difficult to motivate their teachers to participate in the exchange program. In addition, many of those who finally chose to participate were primarily persuaded by the external incentives provided by the Education Bureau, not because of their internal commitment to supporting rural schools. As a result, the number of teachers who finally participated in the *Zhihuan* policy was much less than originally targeted; the length of exchange was reduced from three years to one; the urban-rural bi-directional exchange was changed to be only urban schools sending teachers to support rural schools; furthermore, the commitment and performance of many participating teachers in rural schools were unsatisfactory. All these disappointing outcomes led the actors to gain a sense of low effectiveness of the *Zhihuan* policy. Though the director Feng initially believed in *Zhihuan*'s high potential in tackling teacher quality inequality, his observation of the many unintended policy outcomes altered his sense of its effectiveness in the end to be low.

Sense and Attitude Formation

The other set of information presented in Tables 7-9 is the differing attitudes that the actors had formed about the policies they were implementing. While the sensemaking outputs reported above were particularly about the actors' understanding of the policies through their cognitive activities, the actors' attitudes reflected their general stances towards the education reforms promoted by the three teacher policies.

Similar to the operationalizing of sensemaking outputs, this study categorizes attitude in a general way, given the qualitative nature of the data and analysis. In general, I use three general types of attitudes to categorize the attitudes that the actors demonstrated towards the teaching force reforms. These are *embracing*, *doubting*, and *resisting*. *Embracing* indicates that the actors demonstrated positive stances, such as liking, supporting, or feeling committed or optimistic towards the teaching force reforms promoted by the three policies. In contrast, *resisting* refers to the negative stances that the actors posed, such as disliking, opposing, or feeling disengaged or pessimistic. *Doubting* is a middle ground of attitude where the actors neither embraced nor resisted the education reforms, but stayed skeptical about the reforms and wanted to wait and see for a while.

The results of the attitude categorization are shown in Tables 7-9. As shown in the tables, all the actors of *Tegang* embraced this policy, but most of them, except the Township Middle School's principal Mr. Yuan, altered their attitudes to be one of doubt. Mr. Yuan still stayed positive about this policy. As for the actors of *Guopei*, while the county-level director Dong and the County Seat Secondary School's principal Mr. Zhao consistently embraced this policy across time, the two rural school principals doubted it at the beginning but they eventually changed to embrace it as well. *Zhihuan* was the policy that was resisted by all the implementing actors

except Director Feng. All three school principals persistently resisted this policy, but the two county-level actors either embraced it (Director Feng) or doubted it (Vice Director Wang). After a period of implementation, Feng and Wang both doubted the *Zhihuan* policy's utility.

The analysis of the interview data suggests that the actors' sensemaking outputs significantly shaped the actors' attitude formation. Particularly, the sense of relevance served as a prerequisite for attitude formation, and the senses of feasibility and effectiveness jointly determined the direction of attitude.

The Sense of Relevance Served as a Foundation for Attitude Formation

Forming an attitude towards something entails direct or indirect experience with it, and developing a sense of relevance is the first step. For the participants of this study, two main reasons—job duty and active choice—helped them develop such a sense. The sense of relevance served as a foundation for the actors to form their attitudes.

Job duty was the first factor that contributed to the development of the sense of relevance. For instance, the three school principals felt related to the *Zhihuan* policy simply because they had to according to their job duties. As school principals, their major responsibility included enacting the reform ideas coming from the Education Bureau. Thus, when Feng called the three principals to select teachers for the urban-rural exchange programs, the principals interpreted it as another directive they had to follow, and quickly put the teacher selection task onto their to-do lists, regardless of whether they liked it or not.

While some actors might be "forced" to have relations with the policies, some others chose to *actively* engage with the policies when they saw some benefits from doing so. For instance, *Tegang* was not a compulsory program that every county had to implement. Instead, it was a policy resource for underdeveloped rural counties to apply for to alleviate their teacher

shortages. Based on Feng's sense orientation, he thought *Tegang* would be a great policy resource Ning County could tap. Hence, he drafted a proposal, hoping to get involved in the implementation of *Tegang*. Similarly, Mr. Zhao, the principal of County Seat Secondary School, actively approached the *Guopei* policy because of his school teaches' professional learning needs. County Seat Secondary was a well-resourced and high-performing school in Ning County. In order to maintain the school's good reputation, Zhao was always seeking external resources to support his teachers' continuous learning and development. Thus, it was natural that *Guopei* caught Zhao's attention once it became available for Ning's schools to apply. Unlike the two rural principals who initially showed no interest in this policy because of their teacher shortage issues, Zhao actively used his social networks trying to obtain as many *Guopei* PD resources as possible from the Education Bureau.

Two other counter cases further confirmed the prerequisite role that the sense of relevance played in the actors' attitude formation. Before I went into the field, I planned to study another teacher policy—the Free Teacher Education (FTE) policy as well. However, when I was conducting my first interview in the field, which was with Mr. Feng, he said, "Oh, our county has never participated in the implementation of FTE. So, I know very little about it." Then I asked, "What do you think of FTE?" Feng said, "It seems like a good policy." Without this very general response, Feng did not (or could not) share any further thoughts. Similar situation occurred when I tried to probe Mr. Zhao's thoughts about the *Tegang* policy. Zhao's school was an urban school, and thus it was not involved in the implementation of *Tegang*. When asked how he thought of *Tegang*, Zhao simply responded, "It's not our business. *Tegang* is for rural schools, and we don't need that." These two cases suggested that if the actors had not developed a sense

of relevance through working with the policies, they were not able to form a deep, clear, and solid attitude towards the policies.

In short, no matter whether the actors obtained their senses of relevance due to their job duty or active choice, this important sensemaking output produced a cognitive ground for them on which to form their attitudes towards the policies.

The Senses of Feasibility and Effectiveness Jointly Determined the Direction of Attitude

Under the condition that all the actors had obtained a sense of relevance with the policies they were implementing, their senses of feasibility and effectiveness further led them to take up different directions of attitudes towards the policies. The links between these two sensemaking outputs and the attitude direction follow three general patterns.

> ***high*** *feasibility* + ***high*** *effectiveness* → ***embracing*** *attitude*
> ***low*** *feasibility* + ***low*** *effectiveness* → ***resisting*** *attitudes*
> ***high*** *feasibility* + ***low*** *effectiveness, OR* ***low*** *feasibility* + ***high*** *effectiveness* → ***doubting***

First, the actors who had obtained a sense of high feasibility and high effectiveness about a policy tended to form an embracing attitude toward the policy. For instance, both Dong and Zhao thought the *Guopei* policy was feasible to carry out, and would be effective in enhancing teachers' professional capacities. Consequently, they seemed to have formed very positive attitudes toward this policy. Dong said,

> I think *Guopei* may be the most supportive policy that I've worked with in the past few years. It provides our teachers with the high-quality professional development opportunities they need the most. What is even better, the *Guopei* resources we have received increased year after year. As a local implementer, I feel I am obliged to make the most of the great resources to enhance the quality of our teachers so as not to disappoint the good will of our national government. (Dong, interview 1)

In the above quote, Dong explicated his sense of high effectiveness about the *Guopei* policy. Dong also felt this policy was easy to carry out, since "most of the principals and teachers

favor it and want to get the resources." Influenced by his senses of high effectiveness and feasibility, Dong eventually formed an embracing attitude towards the *Guopei* policy.

Zhao embraced the *Guopei* policy as well. Zhao highly emphasized his teachers' continuous learning and development. *Guopei* fit well his need for PD resources, and thus led him to develop a sense of high effectiveness of this policy. Furthermore, his school had a teacher surplus rather than shortage. This situation enabled him to send a considerable number of teachers to participate in *Guopei* PD programs without worrying about how to fill the vacancies it produced. Therefore, Zhao's experience followed the pattern of "high feasibility + high effectiveness would lead to embracing attitudes," and so did several other actors such as all the actors of *Tegang* and Feng for *Zhihuan* at the early stage of implementation.

Second, when the actors' senses of feasibility and effectiveness were both low, the actors were prone to form resisting attitudes towards the policies. All three school-level actors of *Zhihuan* followed this pattern. They respectively expressed their opposition to this policy. For instance, right in the first interview, Mr. Zhao said straightforwardly that he disliked the *Zhihuan* policy, because it had caused a lot of "troubles" and "headaches" to his work. What was worse, he did not see the intended policy impact on the rural schools and teachers. Instead, he witnessed many unintended consequences that the policy had caused for both the rural and urban schools. Unlike Zhao, Yuan and Cao displayed their resisting stances towards this policy in the second or third interviews when I had established certain degree of mutual trust with them. For instance, Cao shook her head and said,

> Do you still remember the exchange teacher I mentioned yesterday? She was from the urban school in the county seat. I feel her heart was not here with us. She often arrived at school later and leave earlier than our own teachers. The frequency of her asking for leave was also very high. Because of that, sometimes the kids she taught had to study by themselves. I didn't want to cause some "unnecessary" tensions by scolding her on this, because I know she was just here temporarily. (Cao, interview 2)

According to the quote above, Cao thought it was neither feasible to manage the exchange urban teacher as a rural school principal, nor effective in benefiting her school. Therefore, these sensemaking outputs led Cao to feel that *Zhihuan* would not be a promising intervention to solve the problems her school was facing.

Third, the combination of high feasibility plus low effectiveness, or low feasibility plus high effectiveness would lead the actors to form an attitude of doubting. The experiences of all the *Tegang* actors except Yuan fit into this pattern. Feng, Wang, and Cao all developed a sense of high feasibility of the *Tegang* policy, given that the implementation work was clearly delineated in the policy signals and thus they thought *Tegang* was easy to carry out. At the early stage of implementation, they were all optimistic about the effectiveness of *Tegang* as well because of the attractive resources attached to this policy. Thus, they all embraced *Tegang* in the first place. However, after a period of implementation, several unexpected outcomes emerged at the school- and county-levels. For instance, at the school-level, Cao was pretty confident that her school would get at least a portion of *Tegang* teachers because hers was one of the most under-resourced and distant schools in the county. However, it turned out that her school got no single *Tegang* teacher in 2016. Cao said,

> I just got so confused about the result. I don't know why. Maybe the Education Bureau had their own considerations, but I thought we are the school that needs such kind of support the most. I am so confused. (Cao, interview 3)

The sense of confusion implied that Cao's initially positive attitude towards the *Tegang* policy seemed transforming to be a more "wait and see" stance. The county-level actors, Feng and Wang, experienced similar adjustment of their attitudes too. Feng and Wang had the knowledge about the overall transformation of Ning's teaching force, and they had witnessed the high attrition rates of the *Tegang* teachers hired in 2009. Furthermore, they also came to see

several serious challenges facing the other teachers who finally chose to stay in rural schools. For instance, Wang said,

> I know there is quite a number of *Tegang* teachers, especially the male ones we hired in 2009 are still single. You know, our society and people around you would impose certain expectations on you, such as you need to get married at certain age. If you are a man, you should be primarily responsible for earning money for your family. However, teachers' salary is not decent, and the financial conditions and career prospectus of rural male teachers are even more "worrisome." Every time when I heard those teachers' frustrations, I started to doubt whether *Tegang* is still a good policy as I thought before. (Wang, interview 2)

Thus, while Wang's sense of feasibility about the *Tegang* policy stayed high, the shift of his sense of effectiveness from high to low seemed to have altered his attitude towards this policy from embracing to doubting.

Nevertheless, not all the actors followed the three general patterns delineated above. There are some exceptional cases. The first two exceptional cases are the two rural school principals for *Guopei* policy. They both initially developed a sense of low feasibility and a sense of high effectiveness. According to the third pattern described above, they should have taken on a doubting attitude, but they did not. Instead, they both posed a resisting gesture towards the *Guopei* policy. The reason they gave was simple: they were short of teachers. For instance, Yuan said,

> Though I am aware of the important role of professional development for teachers and school, I did not want to send my teachers to participate in *Guopei* in the first place because it would add additional difficulty for me to staff my classrooms. (Yuan, interview 3)

Cao's school faced even more serious teacher shortage problem and she used the same rationale to explain why she resisted participating in the implementation of *Guopei* at the beginning. The cases of Yuan and Cao suggested an important implication for teaching force reforms. That is, from the school principals' perspective, staffing schools with sufficient teachers

seems more imperative than staffing schools with quality teachers. Or in short, quantity comes first, then quality.

The two other exceptions were Feng and Wang for the *Zhihuan* policy. After a cycle of implementation of this policy, Feng and Wang both developed a sense of low feasibility as well as a sense of low effectiveness. However, they did not follow the second pattern as delineated above to adopt a resisting attitude towards the policy. Rather, they took on a doubting stance, still holding some hope for this policy but confused about how they should proceed. Feng's sharing of his feelings about the *Zhihuan* policy after receiving a large number of complaints from local schools well illustrated his doubting attitude towards this policy,

> I thought pushing teachers to exchange their teaching positions across schools was the right direction to go before. Now I realized the difficulty and the costs of doing so. However, I am still hoping that we could achieve what we intend to achieve through this policy after making some modifications to the interventions. We are exploring on that. (Feng, interview 2)

The directing roles that Feng and Wang played in implementing the *Zhihuan* policy seemed to have largely explained why they adopted a doubting instead of resisting attitude. The specific implementing scheme of *Zhihuan* was formulated by Feng, Zhao, and their colleagues in the Education Bureau. Therefore, before they carried out this policy, they had already theoretically justified the feasibility and effectiveness of this policy, and they had already developed commitment towards it. Even if the realized policy outcomes were not as good as they expected, they might be still "dragged" by their original beliefs and commitment about the "good" side of the policy unless a comprehensive or fundamental failure of this policy occurred. It is more psychologically difficult to overturn something that you believe in and are committed to than some other thing you have had limited to no attachment with before.

To sum up, this section describes three meanings—the senses of relevance, feasibility, and effectiveness—that the actors had obtained through their sensemaking efforts, and how these senses led the actors to take on different attitudes toward the policies they were implementing. In the next section, I move forward to report the findings about how the actors' attitudes influenced their implementation behaviors.

Attitude and Implementation Behavior

Sense making and attitude formation are both indispensable components of policy actors' implementation work, but ultimately it is a series of behaviors performed by policy actors that make policy implementation accomplished. The attitudes formed by the actors through sensemaking significantly influenced the actors' implementation behaviors. This study finds that the actors who formed an embracing attitude towards a policy tended to faithfully implement the policy according to the policy regulations, while those who finally took on a resisting attitude tended to break the policy regulations. For those who held an attitude of doubting, many of them still chose to implement the policy faithfully due to their job duties, but they began to view "partial implementation" or "not implementation" as options for their future implementation work.

Overview of the Actors' Implementation Behaviors.

In this study, the actors' implementation behaviors were categorized as either "faithful behaviors" or "unfaithful behaviors." If an implementation behavior complies with policy regulations, the behavior is considered "faithful"; if not, the behavior is considered "unfaithful" (Calista, 1994). Other criteria could have been used to analyze policy implementation behaviors, such as whether an implementation behavior complies with the implementing actor's organizational duties or with his/her personal beliefs. But, because this study focuses on the

realization of policy goals and its relations to policy implementing actors, "whether the implementation behaviors comply with policy regulations" was used as the primary criterion for grouping implementation behaviors, though the policy actors' institutional roles and personal beliefs were used as additional factors to understand particular policy implementing behaviors.

Tables 10-12 provide an overview of some key information of the actors' implementation behaviors. In particular, these tables display what implementation tasks were mandated by the three policies, which actors were involved in each of those tasks, and whether the actors' implementation behaviors were faithful or not. Implementing *Tegang* in Ning included three major tasks: 1. Apply quota from the provincial government to determine the number of teachers for the county; 2. Distribute the approved quota among schools; 3. Recruit teachers. For the first tasks, the two county-level actors (Feng and Wang) and the two rural school principals (Yuan and Cao) participated in this process. Feng, Yuan, and Cao did not execute this task faithfully because they purposefully modified the teaching force data to make their request of *Tegang* teachers seem urgent. Wang's role was compiling requests of different schools, and he seemed to have done this work as the policy mandated. The director Feng was the only one who undertook the other two implementation tasks, and he carried out both tasks unfaithfully to a certain degree. When distributing quota among schools, Feng did not strictly follow *Tegang*'s spirit to support the most under-resourced rural schools, but instead prioritized the schools whose student populations were expanding in the past few years. Recruiting *Tegang* teachers was primarily the responsibility of the provincial government, but Feng did participate in the initial screening of the applicants. When screening the applicants, Feng deliberately favored the applicants who were male and originally from Ning County, which seemed to have violated the policy's "fair recruitment principle."

Table 10. *Tegang* policy actors' implementation behaviors

Implementation tasks	Involved actors & the types of their implementation behaviors			
	Feng (director)	Wang (vice director)	Yuan (principal)	Cao (principal)
1. Apply for quota	X	X	X	X
2. Distribute approved quota among schools	X			
3. Recruit teachers	X			

Note: X = the actor participated in the corresponding task; X = faithful behaviors; X = unfaithful behaviors. These notes also apply to Tables 11 & 12

Table 11. *Guopei* policy actors' implementation behaviors

Implementation tasks	Involved actors & the types of their implementation behaviors			
	Dong (director)	Zhao (principal)	Yuan (principal)	Cao (principal)
1. Receive quota	X			
2. Distribute approved quota among schools	X	X		
3. Select teachers	X	X	X	X
4. Organize secondary training	X	X	X	X

Table 12. *Zhihuan* policy actors' implementation behaviors

Implementation tasks	Involved actors & the types of their implementation behaviors				
	Feng (director)	Wang (vice director)	Zhao (principal)	Yuan (principal)	Cao (principal)
1. Select teachers	X	X	X		
2. Pair teachers with schools	X	X			
3. Manage teachers' performance	X	X	X	X	X
4. Reward teachers	X	X			

In terms of *Guopei*, there were four major tasks awaiting Dong and the three school principals. These were: 1. Receive the quota from the upper-level government; 2. Distribute the approved quota among schools; 3. Select teachers; 4. Organize secondary training. The county-level actor Dong was the only one involved in the first task. Unlike *Tegang*, counties did not apply for *Guopei* resources. Instead, it was the national government assigning *Guopei* resources to local countries at its own discretion. Dong faithfully received and accepted all the *Guopei* resources from the national government. Supposedly, Dong was the only actor involved in the second task regarding quota distribution, but Zhao "inappropriately" inserted himself in this task through using his *guanxi* (or social networks) to influence Dong's decision making, which rendered their implementation behaviors unfaithful. In the third task about selecting teachers, Dong and the three school principals were all involved. The school principals were responsible for recommending teachers to Dong based on the teacher selection criteria of *Guopei* PD programs, and Dong reviewed and approved the recommendations. In accomplishing this task, Zhao and Cao seemed to have consistently followed the teacher selection criteria, while Yuan and Dong did not for a few times. Dong's daughter was a comprehensive practice class[15] teacher in Yuan's school. In order to build up a good *guanxi* with Dong, Yuan deliberately recommended Dong's daughter to participate in several *Guopei* PD programs, even if Dong's daughter did not meet the teacher selection criteria at all. Dong also approved those unfaithful recommendations, which rendered his implementation behaviors in this task "unfaithful" as well. As for the last task about organizing secondary training, all four actors actively performed as the policy regulated. The actors actively organized a variety of county-level and/or school-level

[15] *Comprehensive Practice Class* is a subject in elementary and secondary school curricula in China. Its overarching curricular goal is to help students connect textbook knowledge to social practice. Compared to the core subjects such as Chinese language and mathematics, Comprehensive Practice Class is often treated as a minor subject in school curricula.

secondary trainings, hoping to expand what the participating teachers had learned in the *Guopei* PD programs to the rest teachers.

Among the three policies, *Zhihuan* was implemented the least faithfully. Two county-level actors (Feng and Wang) and the three school principals (Zhao, Yuan, and Cao) participated in the following four specific implementation tasks: 1. Select teachers; 2. Pair teachers with schools; 3. Manage teachers' performance; 4. Reward teachers. The two county-level actors and the principal of County Seat Secondary School were involved in the first tasks. They all deviated from the policy regulated implementation behaviors. The policy regulated that each year at least 10% of the teachers at every urban and rural school should participate in a three-year urban-rural teacher exchange program. However, due to the strong resistance from schools, Feng and Wang shortened the program length to be one year only, and changed the form of urban-rural exchange to be only urban teachers going to teach in rural schools. Also, when selecting teachers, for the sake of his own school's interest, Zhao did not select the best teachers to participate as the policy regulated. All these behaviors diverged from what the policies mandated the actors to do, and thus they cannot count as faithful implementation. The two county-level actors Feng and Wang were responsible for the second task about pairing selected urban teachers and targeted rural schools. They did not faithfully implement this task either, for they catered to certain teachers' or principals' "special requests" (e.g., a teacher did not want to go to teach in A school, or a principal did not want B teacher). Such preferential decisions did not follow *Zhihuan*'s principle of equalizing teacher quality across urban and rural schools. As for the third task regarding managing teachers' performance, all five actors were involved, but they all implemented this task unfaithfully. While the three school principals chose *not* to report teachers' unprofessional behaviors to the Education Bureau, the two county-level actors chose to turn a blind eye to those

issues even if they knew their existence. The two county-level actors were responsible for implementing the last task of *Zhihuan*: rewarding teachers. They rewarded the participating teachers with subsidies, awards, and other benefits as the policy promised. Thus, their implementation behaviors in this task could be considered as faithful.

In short, none of the three policies were implemented exactly as the policies intended. While some actors' implementation behaviors complied with the policy regulations, some others' behaviors did not. Through the following three ways, the actors' attitudes towards the policies emerged from the data as a powerful factor for explaining whether the actors implemented the policies faithfully or not.

Embracing Attitude Might Lead Faithful Implementation Behaviors

Embracing attitude was neither a sufficient nor a necessary condition for producing faithful implementation behaviors, but taking on an embracing attitude tended to direct the actors to faithful implementation.

There were several cases in the data that did not follow the arrow from embracing attitude to faithful implementation behavior. Some actors who held a resisting attitude finally chose to comply, while some others who held an embracing stance broke the rules in the end. External factors, such as the policy signals, institutional arrangements, and socio-cultural contexts, exerted influence on the actors' implementation behaviors as well. For instance, the two rural school principals initially resisted the *Guopei* policy because they lacked teachers. Nevertheless, they still chose to faithfully select and send teachers to participate in the *Guopei* programs because the bureaucratic governance system positioned them in a subordinate role that required them to comply with their superiors' directions, regardless of whether they liked the directions or not. Similarly, even though Feng and Wang did not fully embrace the *Zhihuan*

policy, they still chose to reward the participating teachers as the policy promised, because the policy regulation about this task was specific and high-stakes to teachers, and they did not (dare) defy it. In contrast, Zhao was strongly in favor of the *Guopei* policy, but he finally conducted unfaithful implementation behaviors when he tried to use his social networks to influence Dong's decisions on the distribution of *Guopei* quota. Similarly, in order to build up a good *guanxi* with the director of *Guopei* Mr. Dong, Mr. Yuan purposefully selected Dong's daughter for several *Guopei* PD programs that Dong's daughter did not qualify for, even if Yuan took on an embracing attitude toward this policy.

The cases reported above cautioned me not to draw a solid link between embracing attitudes and faithful implementation. However, a number of cases in the data suggested that adopting an embracing attitude did tend to lead the actors to carry out the implementation tasks more faithfully. The *Guopei* actors' experiences illustrated this pattern. Except the two rural school principals who resisted *Guopei* at the early stage of implementation, all the actors finally adopted an embracing attitude toward this policy. As a result, most *Guopei* actors chose to faithfully carry out the implementation tasks. For instance, for most of the time the three principals chose to actively select the participating teachers and organized the secondary trainings as the policy required. Cao said,

> *Guopei* is a great policy that we local schools really like and need. Though at the beginning I found it a little hard to find substitute teachers for the participating teachers, the great educational ideas and methods that the participating teachers keep bringing back to our school assured me that I made a right decision [sending teachers to participate in *Guopei*]. (Cao, interview 1)

As the other rural school principal in this study, Yuan experienced the same difficulty in staffing the vacancies left by *Guopei* participating teachers in the first place, but by repeatedly hearing many good things about this policy from his teachers and witnessing the positive impact

the participating teachers made on his school, he started to actively select teachers and organize follow up school-level training. The principal of County Seat Secondary School embraced this policy from the very beginning. One of Zhao's core beliefs about managing his school was to provide rich professional learning opportunities to the teachers. Therefore, selecting teachers to participate in *Guopei* and organizing secondary trainings were things he liked and wanted to do. This personal characteristic contributed to Zhao's faithful implementation behaviors on these two tasks (select teachers and organize secondary trainings). In addition, because Zhao's school had more teachers than they needed, this situation offered a supportive condition for Zhao to carry out these two tasks as the policy mandated.

In short, there might be a positive correlation between the actors' embracing attitudes and their faithful implementation behaviors, but this relationship needs to be understood against the specific circumstances in which the actors were situated.

Resisting Attitude Seemed Very Conducive to Unfaithful Implementation Behaviors

Unlike the "fuzzy" relationships between embracing attitude and faithful implementation, the arrow from resisting attitude to unfaithful implementation seemed clearer and stronger. *Zhihuan* actors' experiences illustrated well how the actors' un-cooperative stances towards the policy significantly contributed to their many rule-breaking behaviors. For instance, Zhao did not like *Zhihuan* at all. The policy required urban school principals to select their best teachers to participate in the exchange program. However, when Zhao was doing this task, he did not follow this rule. Zhao said,

> It [the requirement of selecting the best teachers] doesn't make sense at all. If you were a teacher, you are doing an excellent job. And then, you are asked to go to teach in rural schools for a year, what would you think? Will you still want to do a great job in the future? Also, at the school-level, do you think the principals would be willing to send their best teachers to other schools? This policy is just contradictory to the intrinsic nature of teachers and schools pursuing their own interests. (Zhao, interview 2)

Influenced by the very negative attitude as illustrated in the above quote, Zhao certainly did not follow this policy regulation. Instead, he selected the teachers who were less experienced, with average teaching performance , and teaching grades other than grade-9[16] to participate in the program.

Unlike Zhao's way of unfaithful implementation, the two rural school principals, Mr. Yuan, and Ms. Cao, used "omission" as their way. Though Yuan's and Cao's schools should have benefited from this rural-supporting policy, they did not like it because the supporting teachers from the urban schools caused a variety of "troubles" for their administrative work. For instance, both Yuan and Cao complained that the supporting teachers in their schools often raised unreasonable requests to them, such as not wanting to teach on Friday or attend the school staff meetings. According to the policy regulation, Yuan and Cao should have reported these issues to the Education Bureau, but they did not because as Cao said, "They [the supporting teachers from urban schools] are just temporary. I don't want to cause any 'unnecessary' conflict."

However, unfaithful implementation behaviors not only resulted from resisting attitude. When some actors were too embracing of policies, they also tended to defy the policy regulations so as to obtain more policy resources. For example, the two rural school principals (Yuan and Cao) were consistently welcoming the *Tegang* policy. In order to increase their chances of getting the number of *Tegang* teachers they requested, they reported inaccurate/untrue data on their school teaching force to the Education Bureau, which rendered their implementation behaviors unfaithful. Similarly, when the county-level actor Feng reported the data of Ning's

[16] Grade-9 is the last year of middle school education in China. Grade-9 students take zhongkao (中考, high-school entrance examinations) by the end of this year. Schools often invest their best resources (e.g., the most effective teachers) in this grade in order to score high on zhongkao.

teaching force to the provincial government, he also modified the real data in certain ways (e.g., did not count in the hundreds of contract-teachers) to make their request of *Tegang* teachers more convincing.

In brief, while unfaithful implementation was not necessarily caused by resisting attitude, actors who held resisting attitudes were very inclined to conduct implementation tasks unfaithfully.

Doubting Attitude Demonstrated the Potentials to Impact the Actors' Long-Term Action Plans

Both embracing and resisting attitudes were useful indicators for projecting the actors' short-term[17] implementation behaviors. However, doubting attitude did not have such characteristic. When the actors' attitudes towards the policies were in the middle ground, they tended to use external factors (e.g., institutional roles) to orient their implementation behaviors. For instance, the two county-level actors (Feng and Wang) of the *Zhihuan* policy both developed doubting attitudes towards this policy after a period of implementation. When they were carrying out the four specific implementation tasks, they broke the policy regulations in the first three tasks while they complied with the ones about the last task. The realistic conditions for them to select, pair, and manage participating teachers were significantly influenced by the drastic urban-rural school disparities and the complex social networks they had to maneuver. For instance, Wang said,

> Some teachers were initially selected by their principals to participate [in the Zhihuan program]. But their parents, relatives, or close friends are high-level governmental officials in our county. Then, they used their *guanxi* to urge us not to send them to teach rural schools. What could I do? I am just an ordinary official working at the ground. There are many hands around my neck and they would easily "choke" me when they

[17] Short-term implementation behaviors refer to the actions that the actors took for their present cycle of implementing a policy.

> want. So, we ultimately had to remove those teachers who had *guanxi* from the list. (Wang, interview 2)

Wang's experience showed that it was not his doubting attitude towards the *Zhihuan* policy but the socio-cultural context that mainly led to his unfaithful behaviors. His faithful implementation of the fourth task about rewarding the participating teachers was not the result of his liking or disliking this policy regulation. Rather it was because his institutional role required him to execute this task and because the task was not as difficult to accomplish as the previous three ones. Together these examples suggest that external factors were more powerful in shaping the actors' implementation behaviors when the actors held a doubting attitude towards the policies.

However, the doubting attitude demonstrated the potential to impact the actors' long-term action plans. For instance, the principal of Village Primary School Ms. Cao took on a doubting attitude towards *Tegang* after her request of *Tegang* teachers not being fulfilled by the Education Bureau. Cao said,

> I was disappointed, and confused [about the application results]. Isn't *Tegang* aimed to supply teachers to schools like ours? But why didn't we get any teachers? I still planned to apply [for *Tegang* teachers] in the future, but in addition to submitting the application, I should think about what other things I need to do to enhance our chance. (Cao, interview 2)

When I probed on "what other things" she might do, Cao mentioned "to find some *guanxi*" would be a must. Cao's doubt on how the Education Bureau distributed the quota drove her to hypothesize an explanation for her "failure" this time. And the reason she finally arrived at was that she should have used her *guanxi* to influence the decision making at the Education Bureau. Such reasoning led her to add "finding *guanxi*" to her action plans for the next cycle of implementation.

Similarly, Feng and Wang became doubtful about the *Zhihuan* policy after a period of implementation. Because of the job duties pertinent to their institutional roles, they were still implementing this policy. But, their doubts about the feasibility and effectiveness of this policy as well as the reluctant interim policy outcomes urged them to re-examine the necessity of continuing this policy in the next few years. Wang said,

> The intention of this policy is good for sure, but its approach seems too radical. Rotating teachers across schools is a direct way of equalizing teachers, but it entails a bundle of policies to support such large-scale "reshuffling" of the teachers. In the future, we need to think about how to seek support from other governmental branches to do this collectively. (Wang, interview 2)

The above examples suggested that the actors' doubting attitudes tended to push themselves to imagine a different version of their future action plan in order to better achieve their goals.

To wrap up, this section portrays the relationships between the actors' attitudes and their implementation behaviors. The findings indicate that the relationships between these two variables were fuzzy in general, but attitude did play an important role in shaping the actors' implementation behaviors. While the embracing attitudes might lead to faithful implementation behaviors, the resisting attitudes seemed very conducive to unfaithful behaviors. As for the doubting attitudes, they demonstrated potentials to impact the actors' future implementation plans. No matter whether the actors implemented the policies faithfully or not, their implementation behaviors finally resulted in the policy impacts on the targeted teachers and schools. In the last section of this chapter, I report the three policies' impacts and how those impacts were derived from the actors' implementation behaviors.

Implementation Behavior and Policy Impact

The three policies impacted Ning's teaching force, specifically on three aspects: quantity, quality, and structure. *Tegang* added 75 high quality teachers to Ning's under-resourced rural schools; 312 teachers enhanced their professional capacities through attending a variety of *Guopei* PD programs; by "forcing" 169 teachers to teach and support rural schools, *Zhihuan* temporarily changed the distribution of teachers. These impacts resulted from a set of factors, but the actors' implementation behaviors seemed to be the most direct and powerful one. Generally, both faithful and unfaithful implementation behaviors could lead to the desirable policy impacts, but undesirable impacts were often caused by unfaithful behaviors. In the remainder of this section, I first report the impacts that the three policies had accomplished. Then, I elaborate on how the actors' implementation behaviors, together with several other factors, had contributed to those impacts.

The Policy Impacts of *Tegang*, *Guopei*, and *Zhihuan*.

The three policies together significantly impacted the whole county's teaching force, but the degree of the impacts on individual schools differed. Below I first report the county-level impacts, and then I zoom in on how the three sampled schools' teaching forces were influenced by the three policies.

***Tegang*'s county-level impacts**. That Ning County participated in the implementation of *Tegang* in 2016 positively impacted the quantity, quality, and structure of its teaching force. First, *Tegang* added 75 teachers to Ning's 23 under-resourced rural schools, which alleviated those schools' teacher shortages. Figures 9-10[18] demonstrated the student-teacher ratio changes in those targeted schools after the implementation. As displayed in Figure 9, a total of 6 rural

[18] China has different student-teacher ratio standards for primary and middle schools. Therefore, I calculated the ratio changes for the targeted primary and middle schools separately.

middle schools benefited from this policy. Before the implementation, the Student/Teacher ratios of Schools 5 and 6 were 14.78, and 16.00 respectively, which were both above the 2015 national standard 14.00. But the ratios dropped below the standard line to be 10.30 and 13.50 after they received additional teachers from this policy. The other four rural schools also experienced a decrease in their Student/Teacher ratio to different degrees, which suggested that the schools had more teachers teaching their students. Figure 10 shows the ratio changes of the 17 rural primary schools targeted by the policy. Similarly, all the schools' Student/Teacher ratios decreased to certain degrees. The ratio of Schools 15, 16 and 17—18.60, 20.33, and 29.33—were above the national standard 17.00. But after the implementation, the three schools' Student/Teacher ratio declined to be 13.29, 16.64, and 11.00.

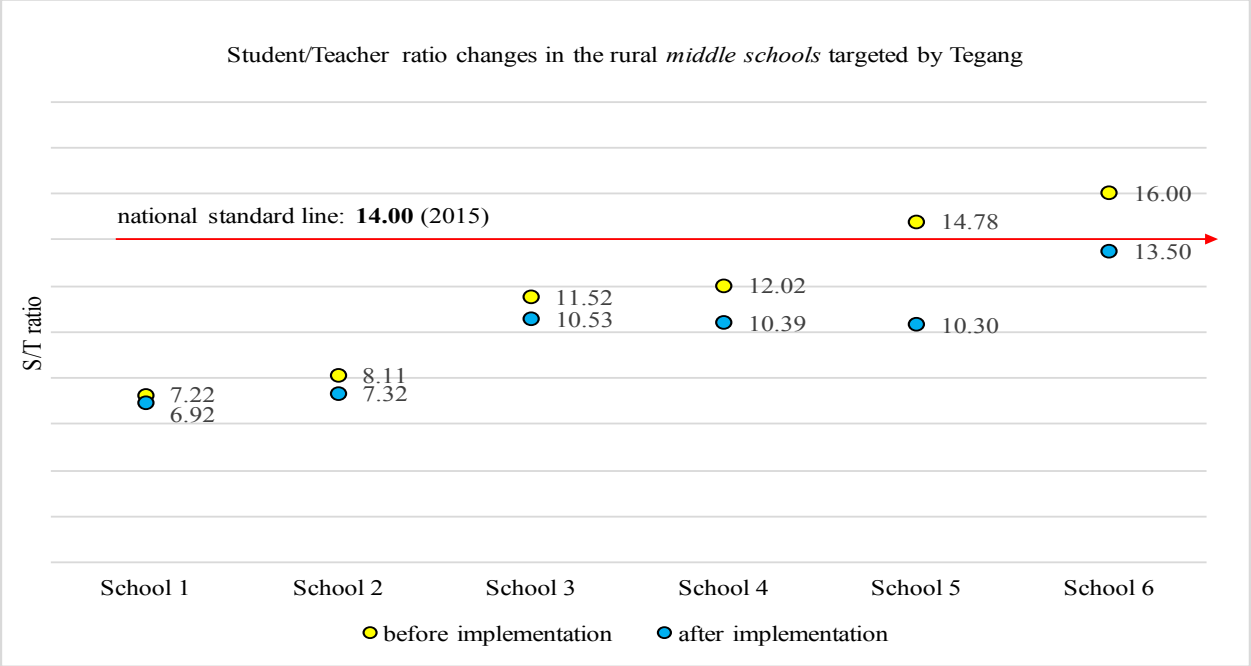

Figure 9. Student/Teacher ratio changes of the targeted schools (middle school)

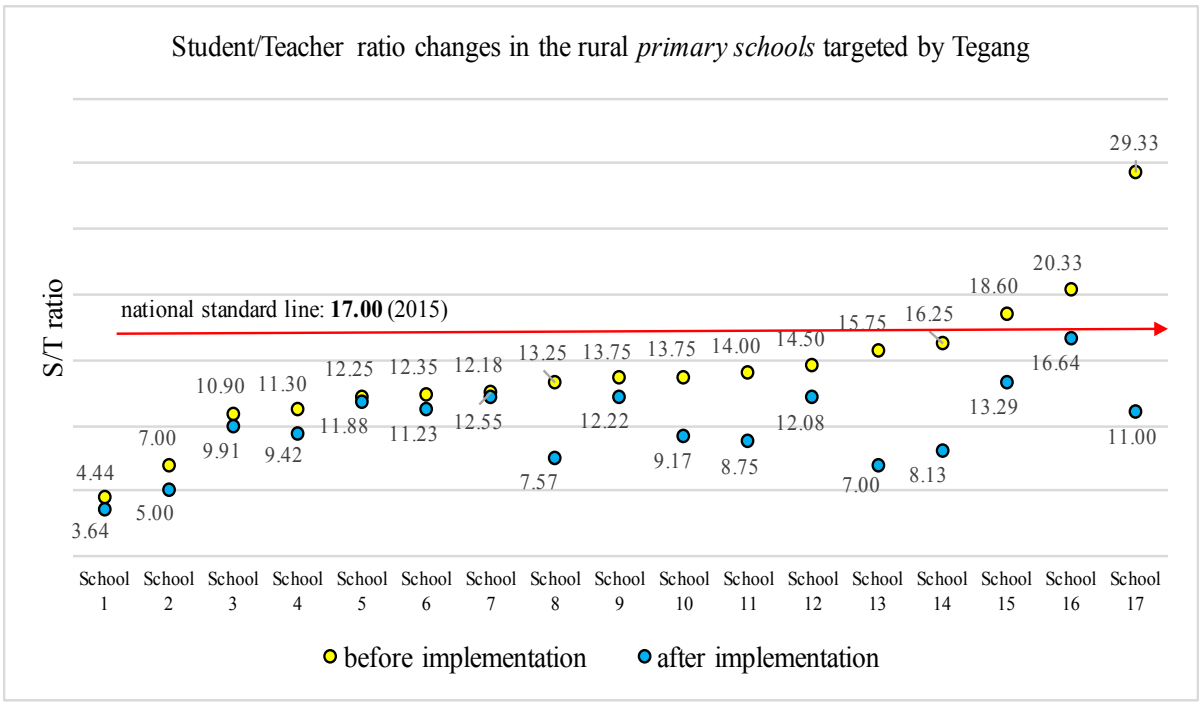

Figure 10. Student/Teacher ratio changes of the targeted schools (primary school)

In addition, *Tegang* enhanced the quality of Ning's teaching force, as measured by teacher's educational background. The highest education that many teachers in Ning received, especially those in rural schools, was high school or even below. But all 75 newly recruited *Tegang* teachers held a bachelor's or master's degree. Their joining increased the percentage of teachers who held at least a college degree.

Third, *Tegang* balanced Ning's teaching force structure. The balancing occurred in two aspects: quality distribution and subject area. Compared to the existing teaching force of rural schools, *Tegang* teachers were regarded as "highly qualified." So, placing all 75 highly qualified teachers into rural schools narrowed the teacher quality gap (as measured by educational background) between Ning's urban and rural schools. Furthermore, when the Education Bureau asked local schools to report their needs, each school identified the subject(s) that they lacked teachers the most. Such bottom-up approach of need reporting rendered the newly hired *Tegang* teachers exactly the ones that the rural schools needed. As a result, the implementation of

Tegang balanced the teacher distribution among different subject areas. For instance, previously Township Middle School was lacking teachers in English, P.E., history, and physics. One provisional measure that Mr. Yuan often used to tackle this issue in the past was to "borrow" teachers from other subjects. However, after his school received *Tegang* teachers in these shortage subjects, the teaching force became more balanced and he did not need to borrow teachers in the near future.

In brief, *Tegang* increased the number of teachers, elevated the educational background profile of the teaching force, and balanced the distribution of teachers across regions and subjects in Ning County.

***Guopei*'s county-level impacts**. Figure 11 displays the *Guopei* quota that Ning County received from 2010 to 2015. The figure also indicates that overall Ning received increasing PD opportunities from the *Guopei* policy in the past few years. The only decline, which occurred in 2015, was because in that year the national government had already provided *online* PDs to over 1,000 teachers in Ning County. The *Guopei* programs the selected teachers attended covered a wide range of themes, such as school-based curriculum development, flipped classroom, ICT assisted teaching, visiting and learning from elite schools, action research, and several others. Both the policy actors and participating teachers indicated that *Guopei* had elevated teacher's professional capacity, including refreshing their teaching philosophy, diversifying instructional strategy, and facilitating learning from peers.

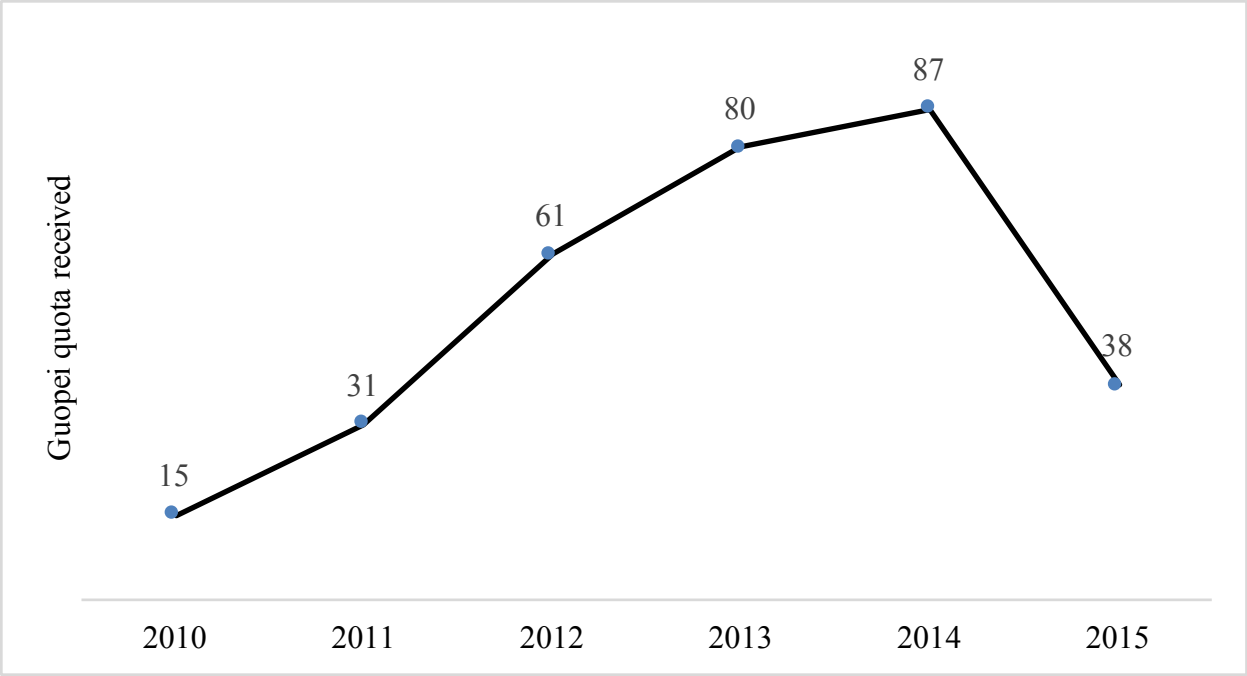

Figure 11. *Guopei* quota received (2010-2015)

First, *Guopei* attuned the teachers to the emerging pedagogical theories and ideas. For instance, Zhao said his teachers who attended *Guopei* programs shared one common feeling: their "ideological level[19]" had been refreshed and elevated. Ms. Li was an outstanding mathematics teacher in Zhao's school. However, after she came back from attending a *Guopei* PD for backbone teachers in the prefectural city Linfen, she said, as Zhao paraphrased, "I thought I was good enough before I attended it. But after learning about how to create a 'student-centered mathematics classroom' together with many excellent teachers from all over Shanxi, I saw new possibilities for my future teaching." The analysis of the participating teachers' reports about their learning experiences confirmed *Guopei*'s impact on their teaching philosophies. For instance, Ms. Wu was an English teacher in an urban primary school, and she attended a *Guopei* PD on "school-based curriculum development." Wu wrote in her learning report,

> This [learning] experience [in the *Guopei* PD] has shaken my thoughts about my role as a teacher. In the past, I thought my primary role was an expert teaching students the

[19] The original words that Zhao said was "思想境界." It means the fundamental beliefs about teaching and learning.

> knowledge and solving their problems. But now I realized, in such an ever-changing era, teachers cannot exhaust all the knowledge that students would need for their social lives. What's more important on teacher's shoulders is to teach students how to learn, and teachers should first use themselves as examples to model to their students how to be a good learner. (Teacher Wu, *Guopei* learning report)

Many other teachers reported similar changes in their fundamental beliefs about education, teaching, and/or learning. Thus, based on the perspectives of both the policy actors and the participating teachers, *Guopei* seemed to cause positive influences on the participating teachers' teaching philosophies.

Second, *Guopei* armed the participating teachers with a set of progressive instructional approaches and strategies. In the past two decades, China has been reforming its primary and secondary education to be more learner-centered. Under this backdrop, many schools across the country are experimenting with a variety of new instructional approaches and strategies, and some of them emerged as successful, such as Shanghai Qingpu teaching experiment, Shandong Dulangkou model, and the flipped classroom model[20] which was originally developed in the United States. Many *Guopei* PDs were designed to disseminate these successful experiences in order to benefit more schools. Some of Ning's teachers participated in such programs. While most of the teachers thought these progressive teaching models were good in theory, they felt those models difficult to fully realize in classrooms. For instance, Ms. Qian was a high school politics teacher, and she attended a *Guopei* PD on the Dulangkou teaching model. She recalled her experience in the PD:

> It's eye-opening indeed. A component of our *Guopei* PD [on the Dulangkou model] was to observe how an expert teacher used that model in her classroom. The topic of the

[20] "Qingpu experiment" is a teaching reform led by Professor Gu Linyuan in Shanghai. The core idea is to implement the notion of "teaching with variation," or in other words, using diverse instructional approaches to engage students to learn. Dulangkou model is a teaching model emerged from the education reform in Dulangkou Township School in Shandong Province. This model emphasizes student's active role in learning before, within, and after lessons. "Flipped classroom" is a pedagogical model in which the typical lecture and homework elements of a course are reversed. It was developed in the U.S., but is getting popularized as a progressive teaching model among schools in China.

> lesson we observed was "My role model." The teacher encouraged the students to introduce their role models and explained why. The students were very engaged. The role models the students selected included Tu Youyou, Ma Yun, TFBoys[21], and a few others. I was very impressed that the students were very attuned to the recent trends nationally and internationally. I bet many of my rural school students might not have heard these names yet. So, I might use this model in my class, but I feel unsure if my students were prepared to do so as well. (Teacher Qian, *Guopei* learning report)

In addition to the learning of student-centered pedagogy, the *Guopei* participating teachers also learned several other teaching techniques, such as how to use multimedia to facilitate teaching, how to interpret and align their teaching with curriculum standards, and so forth. All the policy actors involved in implementing *Guopei* claimed that the teachers had brought progressive pedagogical ideas and strategies back to Ning County, which positively impacted the quality of Ning' teaching force.

Third, the mandatory secondary training of *Guopei* created additional opportunities for teachers to learn from their peers. Dong, the director of *Guopei* in Ning said because *Guopei* was a high-quality but scarce resource, he wanted to maximize the benefits from it. Therefore, he mandated that every *Guopei* participating teachers had to do three things after they came back: 1. go to his office and report to him what they have learned; 2. deliver an exemplary lesson within their own schools; 3. give a lecture to other schools in the county. By doing so, the non-participating teachers within and across the schools had the opportunities to benefit from the participating teachers' learning outcomes. All the teachers had additional opportunities to talk about how they could adjust the things they have learned elsewhere into their local contexts. For instance, Ms. Yan, a mathematics teacher in an urban school, attended a *Guopei* PD on "student-

[21] Tu Youyou (屠呦呦) is a Chinese pharmaceutical chemist who received the 2015 Nobel Prize in Physiology or Medicine. Ma Yun (马云) is a well-known Chinese business man who is the founder and executive chairman of Alibaba Group. TFBoys is a teenage Chinese boy band that is popular among the younger generations in China.

centered classroom" in 2015. After Yan came back, she shared with her school colleagues the core ideas that she had learned from the PD, but they still did not know how to translate those great ideas into their own classrooms. Then, Yan proposed to the head of their jiaoyanzu[22] (teaching-research group) the idea of transforming their classrooms to be more learner-centered, and the head approved it. Informed by what Yan learned in the *Guopei* program, she and her colleagues in the same jiaoyanzu piloted a variety of strategies, such as adding more whiteboards in their classrooms, rearranging student desks to be several circles, strictly limiting their lecture time to be no more than 30% of the whole class time, and using instant verbal encouragement and rewards to motivate students to be the "host" of the classroom. Yan said,

> My colleagues and I did experience a long period of struggle [in reforming our classrooms to be more student-centered]. But after our collective explorations and efforts, now our students have become much more active and engaged in the classrooms. And our relationships with students were not as serious as before any more. For instance, one day I had a new haircut. If it were before, the students would say nothing since they saw me as an authority and dared not to talk with me. But you know what, some of my students even teased me that day, saying "Hey, Laoshi[23], I think your hairstyle before is better." And we laughed out together. (Teacher Yan, interview)

Yan's example well illustrated how *Guopei* catalyzed the communication and collaborations among teachers for bettering their teaching practices. Together, according to the perspectives of *Guopei* implementing actors and participating teachers, this policy had enhanced the overall quality of Ning's teaching force.

***Zhihuan*'s county-level impacts**. The *Zhihuan* policy temporality reshaped the teacher distribution between Ning's urban and rural schools to appear more equal, but it was achieved at

[22] 教研组, teaching-research group. It is a typical professional learning community in many Chinese schools. All the teachers who teach the same grade and subject are formed into one teaching-research group. Teachers in a teaching-research group often meet on a weekly basis to plan lessons together, discuss instructional strategies, develop examination papers, and other tasks related to teaching. Teaching-research group is similar to lesson study in Japan, but the scope of work covered by teaching-research group seems broader than that of lesson study.
[23] 老师: it is a term used to address teachers with respect.

the expense of discouraging and sacrificing urban teachers. What was worse, *Zhihuan* caused unintended problems to the rural school leaders. The mixed policy outcomes and the schools' and teachers' resistance rendered this policy difficult to continue.

Table 13 lists all the schools that participated in the *Zhihuan* policy between 2012 and 2015. Over the four-year span, a total of 169 teachers from 11 schools (mostly in urban areas) were disseminated to teach and support 21 rural schools. Table 13 signals two important pieces of information. First, the size of participating teacher populations per year decreased after initial increases. Second, two rural schools (R21 and R21), which were supposed to receive teachers as the policy originally designed, exported teachers instead in 2015. These two findings raised a red flag about the extent to which the *Zhihuan* policy realized its intended goals.

On the positive side, *Zhihuan* did make Ning's teaching force structure more equal than before by forcefully relocating dozens of urban school teachers to work in rural schools. Furthermore, a few participating teachers did make contributions to the rural schools in which they were working. For instance, Feng said in June 2016 the Education Bureau organized a conference for all the *Zhihuan* participating teachers as well as their urban and rural school principals. The purpose of the conference was to exchange the ideas about the successful experiences and challenges of implementing this policy. Feng said,

> Many teachers cried. They said at the beginning they felt reluctant to go [to teach in rural schools]. But once they were there, looking at the eyes of the rural kids sitting in their classrooms, they felt a strong sense of responsibility. The program is one year. But one teacher even applied to us, hoping to stay [in the rural school] for another year, because the next year her students [at the rural school] would take the high school entrance examination, and she said she wanted to accompany them until the end of their middle school lives. (Feng, interview 2)

Table 13. Schools sending and receiving *Zhihuan* teachers (2012-2015)

Schools sending teachers								
School codes	Location	Level	S/T ratio	2012	2013	2014	2015	**Total**
U1	Urban	Middle	*11.53*	8	8	10	7	**33**
U2	Urban	Middle	*9.99*	9	7	8	6	**30**
U3	Urban	Primary	*17.44*	0	6	10	7	**23**
U4	Urban	Primary	*19.66*	0	5	6	5	**16**
U5	Urban	Primary	*18.06*	0	5	10	5	**20**
U6	Urban	Primary	*21.60*	0	3	6	5	**14**
U7	Urban	Kindergarten	*n/a*	0	4	5	4	**13**
U8	Urban	Kindergarten	*n/a*	0	4	5	3	**12**
U9	Urban	Middle	*6.89*	0	0	2	0	**2**
R21	Rural	Middle	*5.03*	0	0	0	1	**1**
R22	Rural	Middle	*7.15*	0	0	0	5	**5**
			Total	**17**	**42**	**62**	**48**	**169**
Schools receiving teachers								
R1	Rural	Middle	*11.52*	4	0	3	2	**9**
R2	Rural	Middle	*12.02*	13	0	4	4	**21**
R3	Rural	Middle	*14.78*	0	4	4	8	**16**
R4	Rural	Middle	*8.11*	0	3	4	1	**8**
R5	Rural	Middle	*8.46*	0	4	0	0	**4**
R6	Rural	Middle	*16.00*	0	4	3	3	**10**
R7	Rural	Primary	*9.89*	0	3	0	0	**3**
R8	Rural	Primary	*14.50*	0	3	0	0	**3**
R9	Rural	Primary	*7.50*	0	5	6	0	**11**
R10	Rural	Primary	*11.85*	0	5	10	5	**20**
R11	Rural	Primary	*12.55*	0	3	6	5	**14**
R12	Rural	Primary	*12.25*	0	4	10	7	**21**
R13	Rural	Primary	*5.42*	0	4	0	0	**4**
R14	Rural	Primary	*7.22*	0	0	2	0	**2**

Table 13 (cont'd)

R15	Rural	Kindergarten	*n/a*	0	0	3	0	**3**
R16	Rural	Primary	*n/a*	0	0	1	0	**1**
R17	Rural	Kindergarten	*n/a*	0	0	1	0	**1**
R18	Rural	Kindergarten	*n/a*	0	0	5	3	**8**
R19	Rural	Primary	*13.79*	0	0	0	5	**5**
R20	Rural	Kindergarten	*n/a*	0	0	0	4	**4**
R23	Rural	Middle	*8.68*	0	0	0	1	**1**
			Total	**17**	**42**	**62**	**48**	**169**

Note: U1=County Seat Secondary School; R1=Township Middle School; R16=Village Primary School.

Some rural school principals also expressed that *Zhihuan* participating teachers had positively influenced their schools. For instance, in a report that Mr. Yuan, the principal of Township Middle School, submitted to the Education Bureau in 2016, he wrote, "the [*Zhihuan*] teachers injected new 'blood' into our school, inspired and helped our teachers to grow, and elevated our student learning outcomes."

In short, through increasing the number and quality of teachers working in rural schools, the *Zhihuan* policy did help balance the structure of Ning' teaching force across urban and rural areas.

However, the negative side of the *Zhihuan* policy seemed more salient in the data. All three school principals expressed their concerns about this policy. In particular, they worried that the pervasive coping behaviors (even unprofessional behaviors) presented by the *Zhihuan* participating teachers might have harmed rather than helped rural schools. For instance, the *Zhihuan* teacher in Village Primary School often arrived late and left early. What was worse, Cao did not have the necessary administrative power to regulate such behaviors. As a result, the students taught by that teacher sometimes had to study on their own in the classroom. Similarly, the principal of County Seat Secondary School Mr. Zhao felt disappointed and ashamed by the unprofessional behaviors that his teachers conducted in the rural schools, such as declining to attend staff meetings, and not teaching on Friday. Those incidents led Zhao to believe that "This policy [*Zhihuan*] is not a right 'prescription' for solving the inequality problems between urban and rural schools."

Another negative signal was that far fewer teachers than intended participated in the *Zhihuan* policy. According to the policy regulations, at least 10% of the teaching force (about 270) should have participated each year, but the actual numbers were 17, 42, 62, and 48 for

2012, 2013, 2014, and 2015 respectively. Figures 12-15 map out the transfers of the participating teachers among different schools during 2012-2015. In the first year (2012), as shown in Figure 12, a total of 17 teachers from 2 urban schools transferred to 2 rural schools. Figure 13 indicates that in the second year (2013), the number of participating teachers climbed up to 42. These teachers were from 8 urban schools and were finally disseminated into 11 rural schools. The participant population continued to expand in the third year (2014). As displayed in Figure 14, 62 teachers from 9 urban schools transferred to 14 rural schools this year. However, two important changes occurred in the fourth year (2015). First, after initial increases, the number of participating teachers declined to 48 teachers this year, as shown in Figure 15. Second, two rural schools (R21, R22) became the senders, rather than the recipients of the teachers. Feng explained the reasons behind this "unfaithful" implementation,

> R21 and R22 both experienced sharp student enrollment declines in the past few years. Aa a result, they had more teachers than they actually needed, though technically they were located in rural regions. So, we decided to use the *Zhihuan* program to channel some teachers in these two schools to other schools that were still lacking teachers. (Feng, interview 2)

As a result, a total of 48 teachers from 10 schools (i.e., 8 urban schools and 2 rural schools) were sent to teach in 12 rural schools through the *Zhihuan* program in 2015.

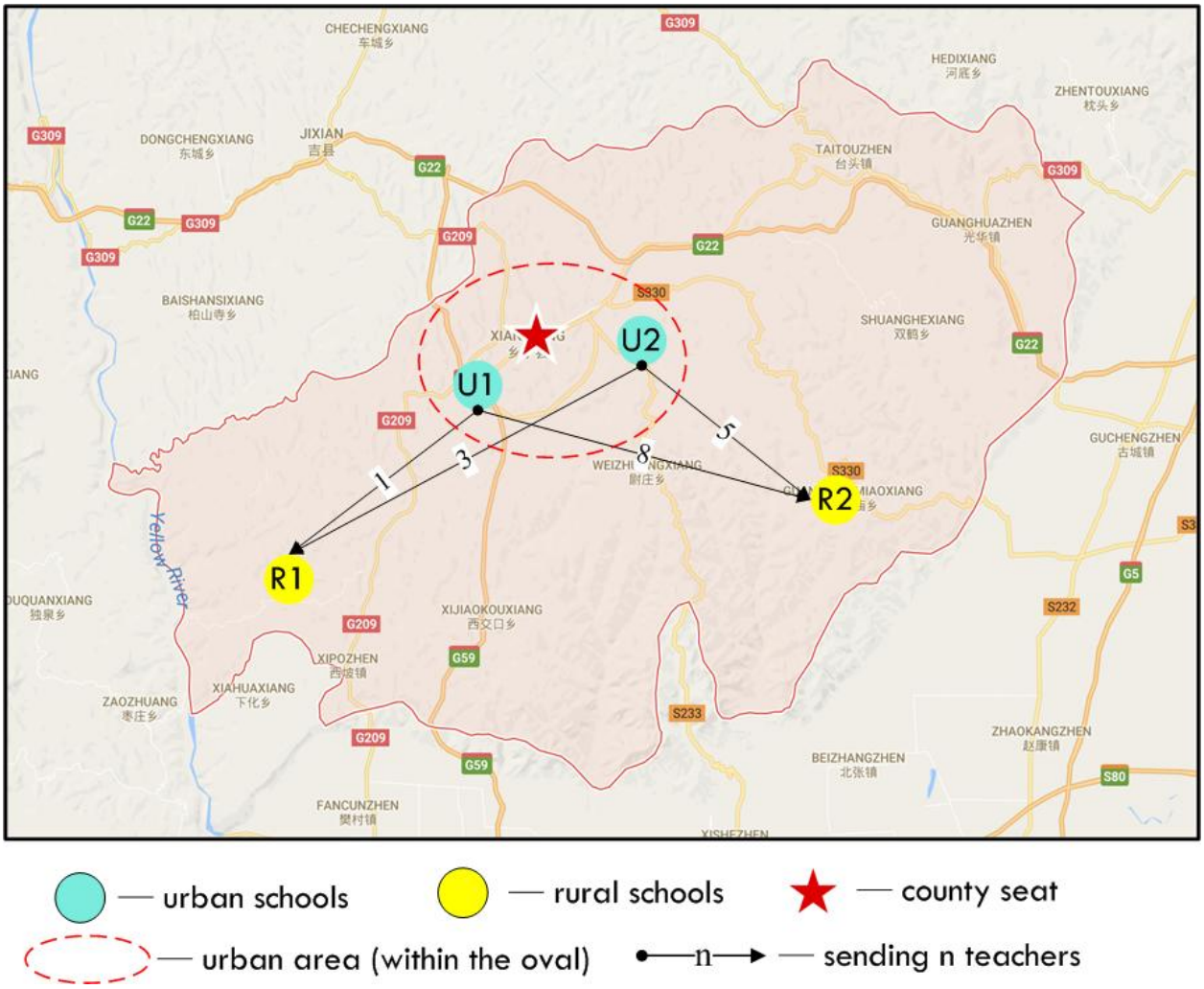

Figure 12. The mapping of *Zhihuan* teachers (2012)

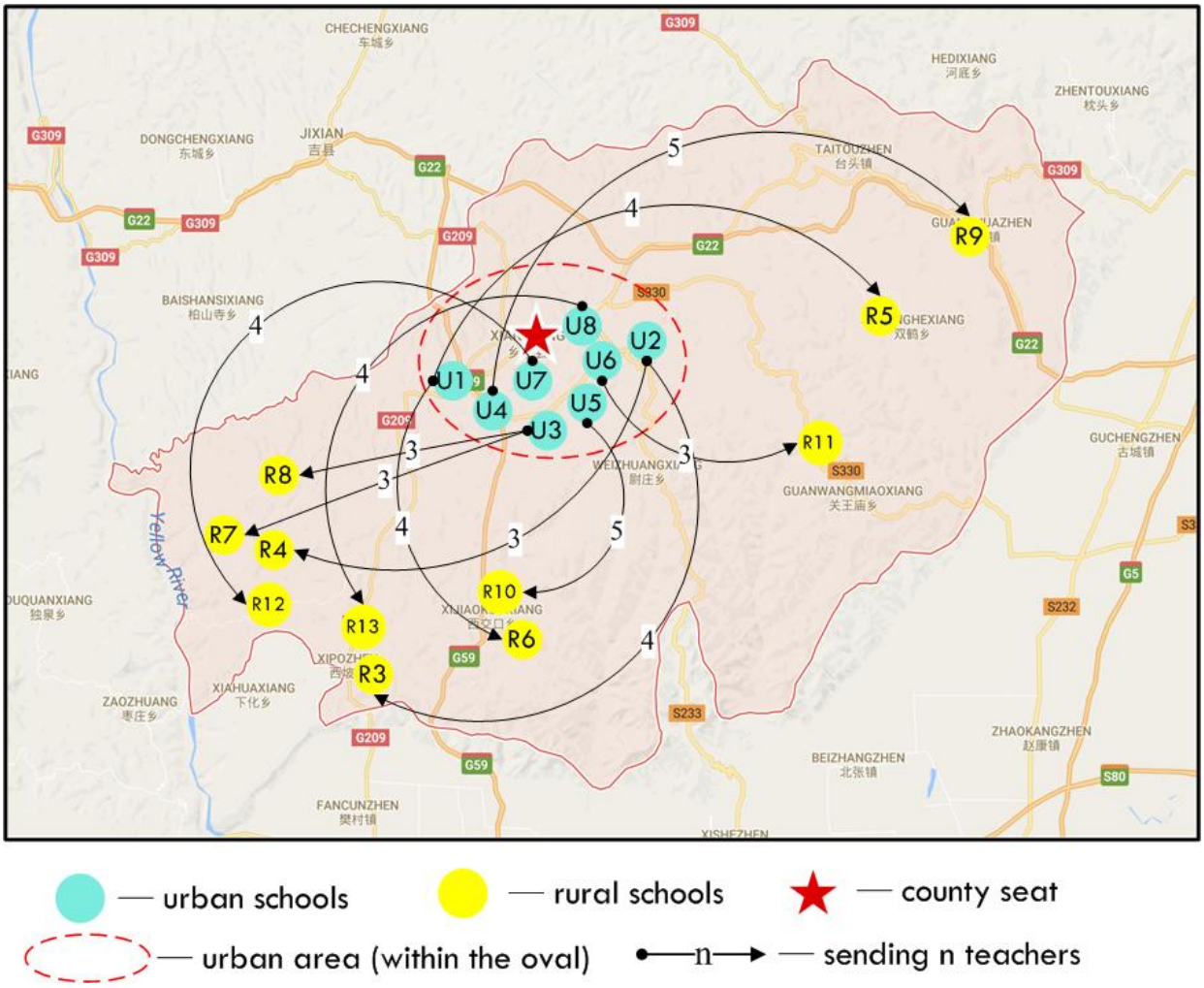

Figure 13. The mapping of *Zhihuan* teachers (2013)

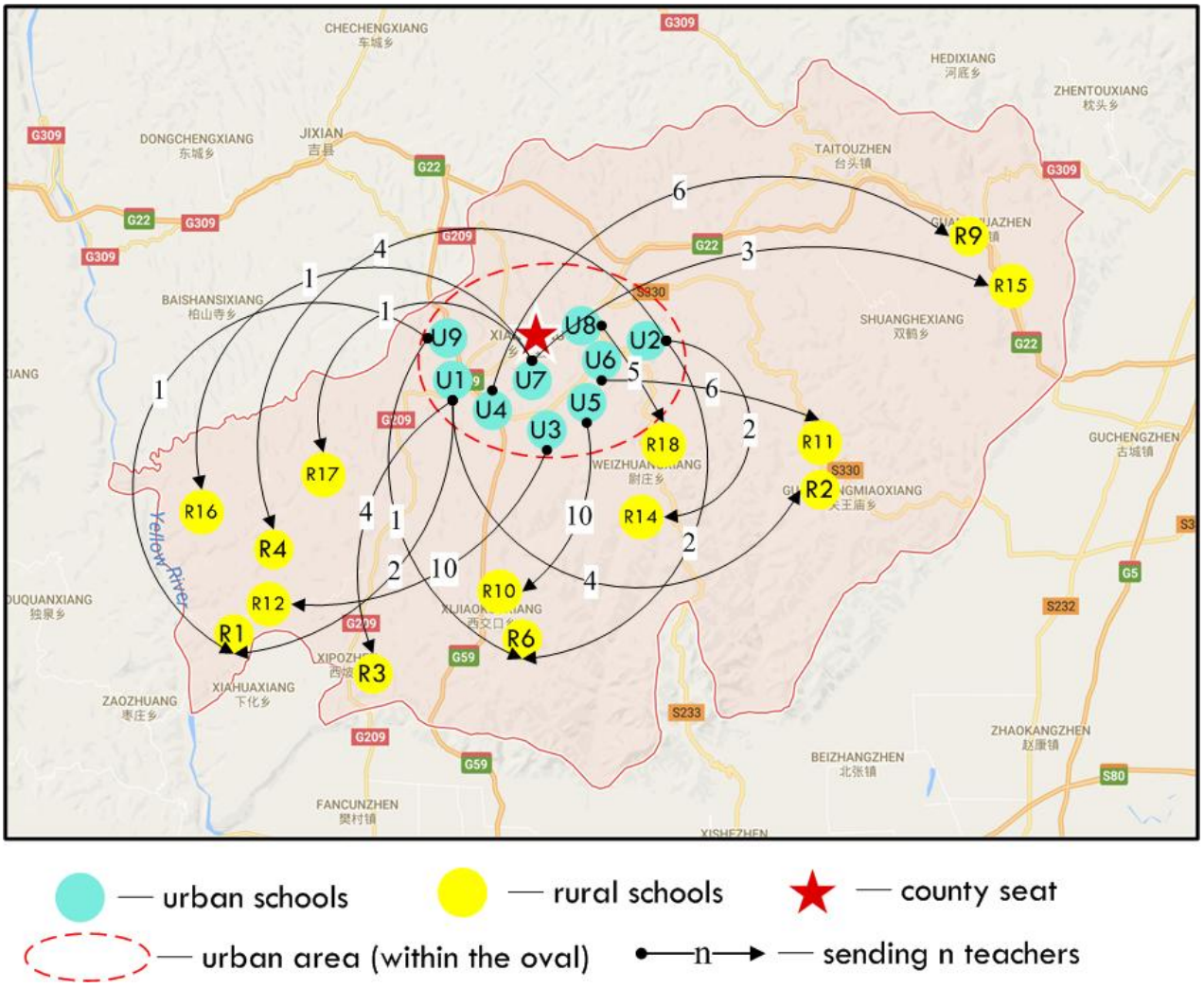

Figure 14. The mapping of *Zhihuan* teachers (2014)

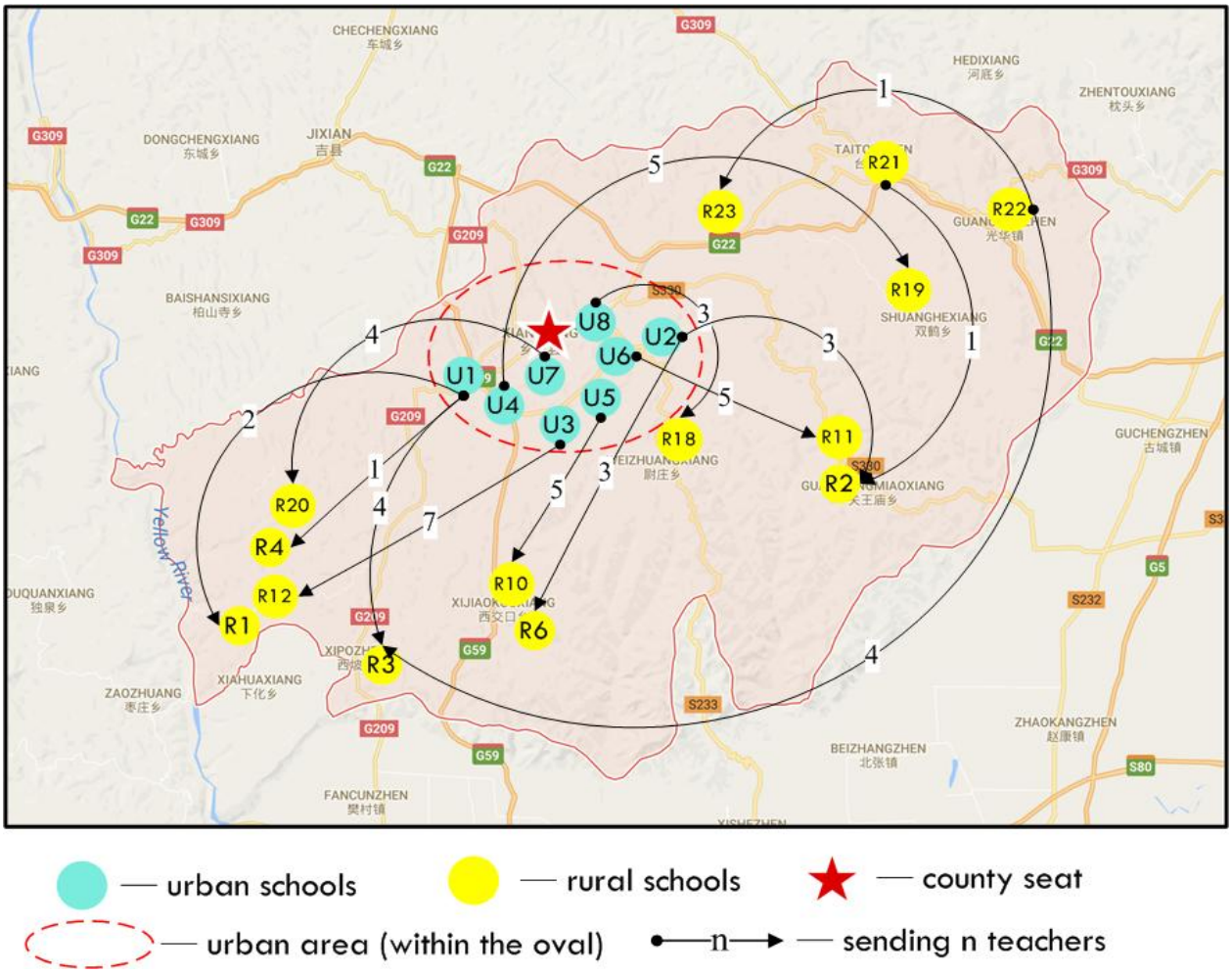

Figure 15. The mapping of *Zhihuan* teachers (2015)

Together, the *Zhihuan* policy caused both positive and negative impacts on Ning's teaching force. However, as the policy actors perceived, the negative impacts seemed to overshadow the positive ones and led the policy actors to believe that this policy failed to achieve what it claimed to.

To wrap up, the three policies exerted different influences on Ning's teaching force. While *Tegang* and *Guopei* changed the quantity, quality, and structure of Ning's teaching force in positive ways, *Zhihuan* demonstrated primarily negative influences.

The policy impacts on the three sampled schools. Table 14 summarizes the three policies' impacts on the three sampled schools. For the *Tegang* policy, the two rural schools were involved. Mr. Yuan requested 5 *Tegang* teachers for his Township Middle School. What surprised Yuan was that the Education Bureau not only approved all his request, but also assigned one more *Tegang* teacher to his school. School 3 in Figure 9 is Township Middle School. As shown in that figure, this school's Student/Teacher ratio dropped from 11.52 to 10.53 after the 6 *Tegang* teachers joined the school's teaching force. In contrast, the result of Cao's application for her Village Primary school was disappointing. Cao requested 5 *Tegang* teachers, but she received none.

Table 14. Impacts of *Tegang*, *Guopei*, and *Zhihuan* on the three sampled schools

	Tegang (2016)	*Guopei* (2010-2015)	*Zhihuan* (2012-2015)
County Seat Secondary School	n/a	Received 7 seats	Sent out 33 teachers: 2012: 8 2013: 8 2014: 10 2015: 7
Township Middle School	Applied for 5 teachers 6 were assigned	Received 4 seats (The daughter of Dong, the county-level director of *Guopei*, took 2 of the 4 seats)	Received 9 teachers: 2012: 4 2014: 3 2015: 2
Village Primary School	Applied for 5 teachers 0 were assigned	Received 1 seat	Received 1 teacher: 2014: 1

In terms of *Guopei*, all three schools benefited from this policy. They respectively received 7, 4, and 1 seats of *Guopei* programs during 2010-2015. An interesting finding is that the daughter of Dong, the county-level director of *Guopei*, was a comprehensive practice teacher in Township Middle School who was given two of the four *Guopei* PD opportunities by Principal Yuan. While one of the two PDs that Dong's daughter attended was designed for comprehensive practice teachers, the other was for Chinese language teachers, for which Dong's

daughter apparently did not qualify. Similar to other policy actors and teachers, all three principals considered that *Guopei* had enhanced their teachers' teaching capacities. For instance, the principal of Village Primary School Ms. Cao said,

> We've got just one *Guopei* opportunity in the past few years, but the effect was great. It's a PD for P.E. teachers. We do not have a P.D. specialist. Then, I sent our Chinese teacher Miss Yang to attend it. She is young and learns things fast. She brought back [from that PD] a new set of broadcast gymnastics and several sport activities for primary schoolers. Miss Young then trained other teachers and all the kids. Now we often have the students do these sports to relax themselves during class breaks. (Cao, interview 2)

In addition to enhancing teachers' professional capacities, Zhao and Yuan recognized another good "side-effect" of this policy: making the teachers realize the significance of pursuing continuous learning. For instance, Zhao said,

> I always tell my teachers that they should not be satisfied, but continuously learn and develop themselves. But some teachers, especially those who think they are doing a great job, seemed not buying that. Very interestingly, after they have attended *Guopei* and met many other excellent teachers from across the county, they realized "山外有山，人外有人 (No matter how good you think you are, there is always someone out there that is better." The teachers' experience [in *Guopei*] is much more powerful than my words [in convincing teachers to value professional learning and development]. (Zhao, interview 2)

In short, *Guopei* positively influenced the quality of the three sampled schools' teachers, though not all the schools and teachers fairly or equally benefited from this policy.

The *Zhihuan* policy impacted all three schools too, but in quite different ways. The policy regulated that at least 10% of the teachers should have participated. In the past few years, County Seat Secondary School had around 130 teachers, which meant that they were supposed to send at least 13 teachers each year to participate in this program. However, as shown in the right most column of Table 14, County Seat Secondary School sent only 8, 8, 10, and 7 teachers in 2012, 2013, 2014, and 2015 respectively. This gap between the intended and actual number of participating teachers reflected County Seat Secondary School's incomplete fulfillment of this policy. In addition, *Zhihuan* also required the urban schools to send their most experienced and

qualified teachers to support rural schools. Table 15 shows the background information of the *Zhihuan* teachers sent or received by the three sampled schools. According to this table, the average age of the 33 teachers sent by County Seat Secondary School was 34, and their average professional title[24] was 3.5, which means somewhere between the 3rd tier and the 4th tier on the professional promotion scheme for primary and secondary school teachers in China. Therefore, in terms of experience (using age as a proxy) and quality (using professional title as a proxy), the teachers that County Seat Secondary School selected and sent to rural schools seemed far from "the most experienced and qualified teachers" the policy mandated.

Township Middle School and Village Primary School were in rural areas, and thus they received teachers from urban schools through this policy. Over the four-year span (2012-2015), they respectively received 9 teachers and 1 teacher. The average age and professional title of the 9 teachers received by Township Middle School were 33 and 3.5. The only teacher that Village Primary School received was a 40-year old, 3rd tier Chinese teacher. According to Mr. Yuan and Ms. Cao, the principals of the two rural schools, while some of the *Zhihuan* teachers sent to their schools did make some contributions to their schools (e.g., providing additional staffs to their schools, bringing some new teaching ideas and strategies to their own teachers), they both felt that many of these teachers' hearts were not with them.

[24] In China, professional title is a commonly used indicator of teacher quality. Chinese primary and secondary school teachers follow a 5-tier professional promotion scheme: tier 1= distinguished teacher, tier 2=advanced teacher; tier 3=first-level teacher; tier 4=second-level teacher; tier 5=third-level teacher.

Table 15. The background information of *Zhihuan* teachers in the three sampled schools

School	Teacher code	Subject	Age	Professional title	Year
County Seat Secondary School (Sending teachers)	CS-T1	English	45	3	2012
	CS-T2	Math	33	4	2012
	CS-T3	English	38	3	2012
	CS-T4	English	28	4	2012
	CS-T5	Chemistry	38	3	2012
	CS-T6	Math	32	4	2012
	CS-T7	Politics	35	4	2012
	CS-T8	Chinese	29	4	2012
	CS-T9	English	31	4	2013
	CS-T10	Politics	24	4	2013
	CS-T11	Music	31	4	2013
	CS-T12	Chinese	31	4	2013
	CS-T13	PE	35	4	2013
	CS-T14	English	38	3	2013
	CS-T15	Politics	28	4	2013
	CS-T16	Chinese	40	4	2013
	CS-T17	English	42	2	2014
	CS-T18	Physics	38	3	2014
	CS-T19	History	27	4	2014
	CS-T20	Chemistry	30	4	2014
	CS-T21	Chinese	32	4	2014
	CS-T22	Chinese	29	4	2014
	CS-T23	Arts	33	4	2014
	CS-T24	Math	31	4	2014
	CS-T25	English	29	4	2014
	CS-T26	PE	30	4	2014
	CS-T27	English	40	3	2015

Table 15 (cont'd)

	CS-T28	Politics	41	3	2015
	CS-T29	Math	34	3	2015
	CS-T30	Geography	34	4	2015
	CS-T31	History	38	3	2015
	CS-T32	Physics	41	3	2015
	CS-T33	Politics	41	2	2015
	Average		**34**	**3.5**	
Township Middle School (receiving teachers)	TM-T1	Math	32	4	2012
	TM-T2	Politics	35	3	2012
	TM-T3	Chinese	29	4	2012
	TM-T4	Chinese	29	4	2012
	TM-T5	English	31	4	2014
	TM-T6	PE	30	4	2014
	TM-T7	Physics	29	4	2014
	TM-T8	Physics	41	3	2015
	TM-T9	Politics	41	2	2015
	Average		**33**	**3.5**	
Village Primary School (receiving teachers)	VP-T1	Chinese	40	3	2014

Notes: In the column of "Professional title: 1= distinguished teacher; 2 = advanced teacher; 3 = first-level teacher; 4 = second-level teacher; 5 = third-level teacher.

For instance, Yuan said many *Zhihuan* teachers did not want to teach on Friday, because they wanted to go back to their homes in the county seat on Thursday afternoon. Similarly, the only *Zhihuan* teacher in Cao's Village Primary School frequently asked for leaves. As a result, the students taught by that teacher had to learn on their own. Supposedly, Yuan and Cao should have reported these issues to the Education Bureau. But because they felt such issues were temporary and did not want to cause "unnecessary" problems between themselves and the *Zhihuan* teachers, they finally chose to turn a blind eye to the problems. However, in their hearts, they did not think the policy addressed their problems about the quantity and quality of teachers. Rather, it interrupted their staffing arrangements and regular teaching activities. In short, it seemed that the *Zhihuan* policy did not achieve its intended goal of equalizing teacher quality across urban and rural schools. Moreover, it caused new problems to the school principals' administrative work and to teachers' work and personal lives.

Attributing the Policy Impacts to Implementation Behaviors

Till now, I have reported the impacts that the three policies had on the County as well as on the three sampled schools. While some of the impacts were as desirable as the policies intended, some others were dissatisfying or even disappointing. The different kinds of impacts resulted from a variety of factors, including policy interventions, institutional structures, and local socio-cultural contexts, but the findings suggest that the actors' implementation behaviors seemed the most direct and powerful factor that led to the varying policy impacts. The analysis of the data indicated two particular relationships between implementation behaviors and policy impacts.

Desirable policy impacts could result from either faithful or unfaithful behaviors. Faithful implementation behaviors seemed to be the first important source of desirable policy

impacts. For instance, the impacts of *Guopei* seemed to have satisfied all the policy actors, school principals, and participating teachers. A major reason was that for most of the time, the actors faithfully followed the policy regulations on receiving the quota, distributing the quota, selecting teachers, and carefully organizing the secondary trainings. If the two rural school principals had not conquered their initial staffing challenges and had refused to send their teachers to participate in *Guopei*, their teachers and students would not have benefited from the new pedagogical ideas and strategies that the participating teachers brought back to their schools. For most of the time, if the three principals failed to select qualified teachers to participate in the *Guopei* programs (e.g., selecting an experienced urban school teacher to participate in a *Guopei* program particularly designed for novice teachers teaching in rural school settings), the participating teachers would not have taken advantage of the previous PD opportunities. If Dong and the three principals did not faithfully follow the policy regulations to organize the secondary trainings, the non-participating teachers would not have benefited from the participating teachers' learning outcomes.

However, faithful implementation could not guarantee desirable policy impacts. For instance, Wang and Feng did faithfully follow *Zhihuan*'s regulations on rewarding the participating *Zhihuan* teachers each year with material and moral rewards. But because the rewards could not offset the high costs that teachers had to pay (e.g., staying far away from family, teaching and living in less well-resourced schools), insufficient numbers of teachers with limited commitment to supporting rural schools, had participated in the *Zhihuan* policy in the end. In this case, two other factors, namely the power of policy incentives and disparity between urban and rural school conditions, became more influential in determining the policy's impact.

Ironically, sometimes only when the actors "broke the rules" could they achieve what they desired. In other words, unfaithful implementation behaviors proved to be another important source of desirable policy impacts. The experiences of *Tegang* actors well illustrated this point. For instance, when reporting their needs of *Tegang* teachers, both the principal of Township Middle School Mr. Yuan and the county-level director of *Tegang* Mr. Feng "faked" their teaching force data in order to increase the chances of their requests getting approved. As a result, Ning County received 75 *Tegang* teachers, and 6 of these teachers were allocated to Yuan's school. Both Yuan and Feng got what they wanted. Similarly, in order to obtain more *Guopei* resources, the principal of County Seat Secondary School Mr. Zhao broke the rule and used his *guanxi* to influence the Education Bureau's allocation of the *Guopei* quota. Finally, Zhao secured disproportionally more *Guopei* seats for his school than many other schools in Ning. The principal of Township Middle School Mr. Yuan also deliberately selected Dong's daughter to attend a *Guopei* PD for Chinese language teachers, even though Yuan knew that Dong's daughter, who taught comprehensive practice lesson in his school, did not qualify for that program. His unfaithful behavior seemed to have pleased Dong, the county-level director of *Guopei*, and in return, Yuan's school ultimately received 4 seats of *Guopei* resources, a number more than many other rural middle schools received.

However, not all the rule-breaking behaviors with good intentions could succeed. For instance, even if Cao also "faked" the data when reporting the needs of *Tegang* teachers, she got nothing, because the county-level director knew the reality of Cao's school and decided to distribute the quota to some other schools that he believed faced more serious teacher shortages.

Together, these examples indicate that both faithful and unfaithful implementation behaviors could lead to desirable policy impacts, but policy interventions (e.g., the power of

incentives), institutional contexts (the role in the governance system), and local socio-cultural discourse (e.g., the *guanxi* culture) also took a place on the left side of the production formula of desirable policy impacts.

Undesirable impacts often derived from unfaithful behaviors. The *Zhihuan* policy seemed to have caused the most undesirable impacts on Ning's teaching force, and these impacts were primarily attributed to the implementing actors' unfaithful behaviors. For instance, the county-level actors did not faithfully comply with the policy regulations on selecting 10% of the existing teachers to participate. Furthermore, the original design of the policy was a two-way teacher exchange between urban and rural schools. However, because rural schools lack teachers and urban schools have more teachers than they needed, the actors switched the design to a one-way program: only urban schools sent teachers to support rural schools. Another issue was the length of the program. It was a three-year exchange program as mandated in the original policy document. But because of the schools' and teachers' strong resistance, the county-level actors shortened it to be a one-year program only.

The same link existed between the school-level actors and the undesirable policy impacts. In order to protect his own school's interest, Mr. Zhao did not comply with the *Zhihuan* policy's regulation on "selecting the most experienced and high quality teachers" to support the rural schools. Instead, the selected teachers were young, holding middle-tier professional titles, and presenting limited to no commitment to working in rural schools. Similarly, the two rural school principals should have reported the *Zhihuan* teachers' unreasonable requests and unprofessional conduct in their schools. Nevertheless, Yuan and Cao chose not to report these teachers' problems to the Education Bureau, hoping to maintain the ostensibly harmonious collegial relationships.

In addition, teachers are not the primary implementing actors concerned in this study, but a wide range of coping behaviors conducted by the *Zhihuan* teachers also significantly contributed to the undesirable policy impacts. If the teachers had a sense of commitment to enhancing educational equality, if the policy had provided the participating teachers with generous incentives for compensating their "sacrifice," and if the rural school principals were equipped with more administration tools (e.g., the power of determining the participating teachers' subsidies or professional promotion) to regulate *Zhihuan* teachers' performance during their stay in rural schools, the policy impacts might have been as intended by the policy.

In sum, the actors' implementing behaviors significantly contributed to the policy impacts realized on the ground. Though the relationships between implementation behaviors and policy impacts were not casual, the analysis of the actors' experiences suggest that while both faithful and unfaithful implementation behaviors could lead to desirable policy impacts, undesirable impacts often resulted from unfaithful behaviors.

Summary: Weaving Together Meaning, Attitude, Behavior, and Policy Impact

This chapter revolves around three important relationships that help accomplish policy implementation: meaning and attitude, attitude and behavior, and behavior and policy impact. The findings suggest that the actors had obtained various meanings, or specifically the senses of relevance, feasibility, and effectiveness about the policies they were implementing. Based on different meanings they constructed, the actors eventually formed an embracing, resisting, or doubting attitude towards their implementation work. While embracing attitudes did not always lead to faithful implementation behaviors, resisting and doubting attitudes seemed very conducive to unfaithful behaviors. Similarly, in the relationship between implementation behavior and policy impact, desirable impacts could be credited to both faithful and unfaithful

behaviors, but much of the undesirable impacts were caused by the actors who did not faithfully carry out the implementation tasks as mandated by the policies.

Though the three relationships are reported in a specific order, I do not suggest that the policy implementation was or should have been accomplished in this order. In reality, the actors constructed meanings, formed their attitudes, carried out implementation tasks, and absorbed interim policy outcomes almost simultaneously over time. However, when the policy impacts (especially those undesirable ones) took form, the actors needed an explanation for that, such as Cao's asking "Why? I was confused." Similarly, Zhao needed an explanation for the forceful teacher rotation; Feng needed an explanation for the disappointing outcomes of *Zhihuan*; Yuan needed an explanation for the extra *Tegang* teacher he received; everyone involved in the education reform needed an explanation for how well they had done and why. By focusing on several key relationships in policy implementation, this chapter provides one version of explanations about how the actors' sensemaking efforts contributed to the realized policy impacts through the intermediate variables of attitudes and behaviors.

In sum, sensemaking is a critical force that can help policy implementing actors externalize their knowledge into attitude and action, and finally influence the populations and contexts targeted by policies. I argue sensemaking is a useful perspective for digging out the multi-tiered, intertwined roots of policy outcomes. In the next chapter, I elaborate on this central assertion of my dissertation, and discuss the conceptual, analytical, and practical implications for future efforts at understanding the complex relationships among people, policy, and place in education reforms.

CHAPTER 6

SENSEMAKING, POLICY IMPLEMENTATION, AND TEACHER WORKFORCE IMPROVEMENT

"Wei, where are you going to collect your data?"
"A rural county in Shanxi Province."
"Why? There are so many great schools in Beijing. Why go to rural areas?"

(field note, 20 May 2016)

This was a conversation I had with one of my best friends in Beijing during the first few days of my fieldwork trip. This friend was not the only one who felt surprised or confused about me wanting to go to a rural area for research. When I was in China, the professors who taught me before, my college classmates who were all working in well-developed metropolitan areas such as Beijing and Shanghai, and even the people I encountered in Ning County (including some of the participants) all asked me why I should bother going to rural areas when China is urbanizing at an unprecedented rate and many people are migrating from rural areas to more developed cities. The quite similar responses I received from different people struck me, pushing me to think about how people in today's China view rural education or rural regions in general. Is rural education still inadequate and of "low" quality? Are rural areas still the places that people try their best to flee/stay away from? How about those who cannot or do not want to leave?

Scott Rozelle, a China studies scholar at Stanford University, shared his recent study on China's rural education. Using the data collected in 2010, Rozelle and his research team (2017) found in a national study that, "over 65% of rural children [in China] did not go to high school for a single day" (p. 1). When this finding was first published in September 2017, it quickly caught a great deal of public attention because it was shocking that a country can simultaneously have a city like Shanghai that tops the PISA tests multiple times and a large percentage of its

children living in rural regions dropping out of schools at an early age. Rozelle's work resonates with many recent studies which found that while China as a whole has been dramatically developing in many ways in the past few decades, the society is also getting increasingly unequal (e.g., Xue & Li, 2015; Whyte, 2010). For instance, Whyte (2010) characterizes China as "One country, two societies"—an expanding and growing urban society, and a dilapidating and marginalizing rural society.

With the surprising and confusing responses that I received from colleagues in urban China, I entered Ning County, a rural space that many Chinese people would never know. The first day I arrived in Ning, Feng and his subordinates welcomed me with an official dinner at a local restaurant. As a local tradition, I drank with them, and enjoyed the local dishes and snacks that he proudly introduced to me. Feng and his colleagues were proud of the significant progress that they had achieved in improving Ning's teacher workforce. I also shared my life and study experiences in the United States and talked about some common experiences we had, starting to build up connections with each other. Wang (Feng's direct subordinate) and Yuan (the principal of Township Middle School) were also at the welcoming dinner. In the next few days, Feng introduced me to the three other participants after I discussed my research goals and plans with him.

In my early interactions with the participants, they seemed quite defensive. Perhaps it was because I was a new face to them. As time went on, I had more chances to interact with each of them on various occasions, chatting with them in and outside their offices, dining with the three school principals in their canteens, running into Feng and Dong when I was jogging on the streets of the county seat, spending the Dragon Boat Festival with Yuan and his family, and drinking together with some of them over the weekends (field notes, May to August 2016). With

the sustained, personal interactions with each of them, my participants and I came to know each other better and felt more comfortable and willing to exchange experiences more frankly. We also added each other as friends on WeChat. Even after I have left Ning County for a year, we still follow, like, and comment on each other's posts on a regular basis.

All these close interpersonal connections I built up with these participants discourage me from objectifying them as my "research participants," from whom I just collect data, walk away, write my dissertation, and am done. Instead, I would rather see them as my comrades in working for a better education system for *all* students, or like my friends who brag about their achievements, hide small secrets that they do not want to share publicly, and experience joys and frustrations in their daily work. The stories shared by them are special because of their unique life and work experiences, and the unique place in which they worked. Nevertheless, despite their invisibility in the eyes of many people in China, just like those in many other unknown and underdeveloped rural countries like Ning, I came to believe that their experiences revealed some serious social problems that are quietly taking place. I also constantly remind myself that my purpose in writing this dissertation is not to collect some "bad" stories about crisis, failures, or problems. Instead, the purpose of this study is to understand, both conceptually and empirically, how a group of ground-level policy actors carry out teacher policies in their situated contexts.

In this final chapter, bearing in my mind the desire to avoid over-generalizing or understating the values my research findings can warrant, I conclude this dissertation with several threads of discussions. First, I reiterate the primary research findings by tying them back to the research questions. Then, I discuss how this study can contribute to the existing literature at the intersection of sensemaking, policy implementation, and teacher workforce improvement. Third, I reflect on how the research methodology I use in this study strengthened and limited

what I found and claimed. Fourth, I discuss the implications of this work for how to study teacher policy and use them to improve teacher workforce for challenging school contexts. Lastly, I conclude this dissertation with a brief summary of what brought me to this project, what I learned in it, and which new directions of research it has pointed to me.

Research Questions Revisited

The first research question concerns how the participating policy actors make sense of the teacher policies studied. The research findings reveal four sensemaking activities that the participants used to navigate policy implementation. These are sense-orientation—seeking a general sense of direction for implementation; sense-specification—mapping out an implementation scheme; sense-giving—negotiating collective meanings for implementation; sense-adaptation—adapting thoughts and actions according to the changing circumstances. The findings also show that multiple factors shaped the policy actors' sensemaking efforts. These include the actors' characteristics (e.g., work experience, argumentation style), policy signals (e.g., information about incentives and obligations), institutional contexts (e.g., institutional roles and the power attached to them), and the socio-cultural discourses (e.g., the anti-corruption campaign). This study also identifies specific ways in which these factors shaped each of the sensemaking activities.

The second research question analyzes the consequences of sensemaking for policy implementation process and outcomes. Overall the research findings suggest that sensemaking matters. Sensemaking caused a ripple effect that linked the policy actors' subtle sensemaking activities to the significant consequences realized on the targeted schools and teachers. Specifically, the sensemaking activities helped the actors develop the senses of relevance, feasibility, and effectiveness about a policy. These senses further shaped the actors' attitudes and

behaviors. Finally, the actors' implementation behaviors caused real and powerful impact on the size, quality, and structure of the teacher workforce in the targeted contexts.

These findings together lead to the central argument of this study: while policy actors' sensemaking is subtle in form and size, it has large consequences for policy implementation process and outcomes.

Process of Sensemaking

Sensemaking studies are the first research field to which this study's findings can make contributions. In particular, the four sensemaking activities as characterized in Chapter 4 can help refine the emerging constructs related to the process of sensemaking. Furthermore, the four activities together constitute a conceptual framework for understanding sensemaking process.

In the early 2000s, a few educational scholars such as James Spillane and Cynthia Coburn started introducing sensemaking theories into the field of education (Coburn, 2001; Spillane et al., 2002; Coburn, 2005). This cross-disciplinary "borrowing" has contributed a socio-cognitive perspective for studying education reforms. In the meantime, sensemaking as a research field has also been developing in the past few decades. Recently, Maitlis and Christianson (2014) have conducted an extensive review of the sensemaking literature. They found that this research field has made much progress regarding identifying the influential factors on sensemaking and what sensemaking can accomplish. They also pointed out that several areas were needing further examination. Sensemaking process is one of those under-studied areas (Maitlis & Christianson, 2014). My findings contribute to this field's ongoing explorations of the sensemaking process.

Table 16. Comparing the sensemaking constructs as found in this study and reported in the literature

Constructs found in this study	Constructs reported in the literature
Sense-orientation: Seeking a general sense of direction	**Sense-demanding:** "strenuous efforts to acquire and process information so as to establish 'a workable level of uncertainty' and equivocality (Weick 1969, p. 40)." (Vlaar, van Fenema, & Tiwari, 2008, p. 240)
Sense-specification: Mapping out a concrete action plan	**Sense-specification:** "specification of explicit or implicit norms…coining of principles, exemplary decisions and actions, symbolization, and quantification." (Monin, Noorderhaven, Vaara, & Kroon, 2013, p. 262)
Sense-giving: Negotiating collective meanings with others	**Sense-breaking:** "the destruction or breaking down of meaning." (Pratt, 2000, p. 464)
	Sense-giving: "attempting to influence the sensemaking and meaning construction of others toward a preferred redefinition of organizational reality." (Gioia & Chittipeddi, 1991, p. 442)
	Sense-exchanging: "different conceptions of organization are negotiated to socially construct the identity of an organization." (Ran & Golden, 2011, p. 421)
Sense-adaptation: Adapting thoughts and actions according to the changing circumstances	N/A
N/A	**Sense-shielding:** "discourse can be mobilizing in terms of promoting a specific kind of thinking and action or manipulative in terms of hiding particular ideas." (Vaara & Monin, 2010, p. 6) "silencing alternative senses of integration or marginalization of particular voices." (Monin et al., 2013, p. 262)

Notes:
a. The constructs in the right column are summarized by Maitlis and Christianson (2014, p. 69); b. The constructs juxtaposed side by side share the same or similar meanings; c. N/A = no corresponding construct is available.

First, the four sensemaking activities identified here can help refine the process-wise constructs that are emerging in the sensemaking literature. Table 16 juxtaposes the sensemaking constructs emerging in the literature with the four constructs I have found in this study. By comparing the two columns of the table, I saw many similarities and nuanced differences between these two sets of constructs. For instance, based on Weick's work (1969), Vlaar coined the term sense-demanding to refer to the moment of needing information to reduce the level of uncertainty to be workable. Though in my study I used a different term "sense-orientation," in essence, it conveys the similar idea that sense-makers need to seek sufficient amount of information to be able to develop a rough sense for taking actions. For instance, when Feng and Dong received the tasks of implementing *Zhihuan* and *Guopei* for the first time, they both actively sought information by either perusing the policy texts or drawing on their experiences of working with similar policies to construct the initial senses about the policies.

Both Monin's et al. (2013) and I used the term sense-specification to refer to the process of sense-makers developing ideas and actions originally seen as general to be clear and straightforward. However, while Monin et al.'s use of sense-orientation was contextualized in the field of business management (particularly in post-merger integration), I used this term in the context of education policy implementation. That may be why we focused on different things that need to be specified (corporation norms vs. implementing plans). Nevertheless, our definitions share similarities regarding several strategies that sense-makers use to specify their senses, such as formulating principles and quantifying things of interest. For instance, when Feng was developing more specific senses for implementing the *Tegang* policy, he quantified how many teachers Ning County would lack in the next few years, and how much money this policy would save for the local government. Furthermore, both Monin et al.'s work (2013) and this

study depart from the traditional understanding of sensemaking as purely retrospective (Weick, 1995). Instead, the studies of Monin et al. and my own, along with several other recent studies (e.g., Stigliani & Ravasi, 2012; Wiebe, 2010), collectively propose a future-oriented conceptualization of the sensemaking process. Our departure from early understandings of sensemaking as a retrospective cognitive activity is probably because the early work on sensemaking mainly focused on unplanned and extreme cases, such as Weick's (1988) classic work on sensemaking in crisis situations. In those circumstances, sense-makers might be too overwhelmed to make sense of what was happening until they had experienced those crises and looked back on the crises. However, in both policy implementation and organizational development, many situations are planned to occur. For instance, the three teacher policies were designed to be carried out in Ning County. The fewer surprises and overwhelming feelings that people would encounter in planned reforms, as opposed to a crisis, might allow cognitive room for people to look into the future and make plans accordingly.

Sense-giving is the third construct emerging from the research data. If the three other constructs I introduced in this study are mainly individually oriented, sense-giving is the one that highlights the collective dimension of the sensemaking process. This finding resonates with three existing constructs that share similar meanings with sense-giving. One is the same term (i.e., sense-giving) brought up by Gioia and Chittipeddi's (1991) in their ethnographic case study on initiating strategic changes in a higher education institution. Another construct—sense-exchanging—was coined by Ran and Golden (2011) in their recent research on the process of constructing organizational identities. The third construct was coined by Pratt's (2000) study of organizational identity construction. Pratt argued that sense-breaking—the deconstruction of meanings into workable pieces, and sense-giving—the attempts of influencing others'

construction of meanings would together lead to the successful exchange of meanings among different members of the same organization. While sense-exchanging emphasizes the process of co-constructing meanings as equal partners, sense-breaking and sense-giving are two specific steps for producing successful meaning-exchanging. Furthermore, sense-giving conveys a connotation of unequal power relationships between different parties involved. I used the term sense-giving instead of sense-exchanging to describe the interactions among the different policy actors in Ning County because the local governance system was hierarchical. Sense-giving could better connote the top-down nature of the organizational system in which the policy actors were situated. However, I argue sense-breaking, sense-giving, and sense-exchanging all convey the notion that sensemaking is a social activity (Coburn, 2005; Spillane et al., 2002; Weick, 1995).

Sense-adaptation is the fourth construct that emerged from the research data. I have not seen sense-adaptation used in previous studies, nor did I find constructs that convey the same ideas about the transformation of senses over time. It is probably because all the constructs mentioned above can be seen as certain forms of sense-adaptation, and thus it is unnecessary to coin one more term to emphasize the adaptation of senses. However, I argue the notion of sense-adaptation can be particularly helpful when multiple cycles of planned reforms are concerned (e.g., the numerous waves of policy implementation) because it can illustrate how people's senses transform over time. For instance, the two rural school principals (i.e., Yuan and Cao) developed different senses about the *Guopei* policy between the first cycle of implementing this policy in 2010 and the following years. The five actors who were involved in carrying out the *Zhihuan* policy were adapting their senses, or "crossing the river by groping the rocks," over different years of implementation. Therefore, while the other sense-making constructs can implicitly capture the adaptation of fine-grained levels of senses, sense-adaptation is helpful for

capturing the transformation of synthesized senses across different cycles of planned reforms. Therefore, sense-adaptation is a new construct my study can contribute to the unpacking of sensemaking process.

Unsurprisingly, the four sensemaking constructs revealed in this study cannot cover all the sensemaking constructs existing in the literature. Sense-shielding is an example of those "outlying" constructs. Monin et al.'s (2013) and Vaara et al.'s (2010) studies respectively defined sense-shielding as "marginalization of particular voices" (p. 262) and "hiding particular ideas" (p. 6). These definitions ascribed additional layers of meanings (e.g., power relationships, the disparity between speaking and thinking). I did see examples of sense-shielding in the data. For instance, the two rural school principals (i.e., Yuan and Cao) deliberately hid the accurate information about their schools' teacher workforce, hoping to enhance their chances of receiving *Tegang* teachers from the Education Bureau. But maybe because the number of examples like this was small, and they could be grouped under the category of sense-giving (i.e., purposeful whining as a way of giving senses to others), sense-shielding did not emerge from my data as an independent construct. However, outlying constructs such as sense-shielding remind us of the complexity of sensemaking process. More constructs such as sense-innovating, sense-faking, sense-oppressing, and so on may be coined in future studies. But how to refine the old constructs with the newly emerging ones should be a continuous work for fellow researchers in the field of sensemaking.

The second contribution this study can make to the field of sensemaking is that the four sensemaking constructs collectively constitute a theoretical framework for understanding the sensemaking process (Figure 16). As discussed above, previous studies have coined a wide range of constructs, in separate studies, about the sensemaking process. However, few studies have

attempted to weave these discrete constructs into a meaningful framework. It has limited the understandings of how sensemaking is accomplished (Matlis & Christianson, 2014). However, this study not only characterized four sensemaking activities that are central for accomplishing sensemaking but also showed how these activities are interconnected. Particularly, this study's findings suggest that sensemaking usually starts with sense-orientation, develops through sense-specification, spreads through sense-giving, and transforms through sense-adaptation. In short, conceptually speaking, these four sensemaking activities together propose a conceptualization of the complicated sensemaking process.

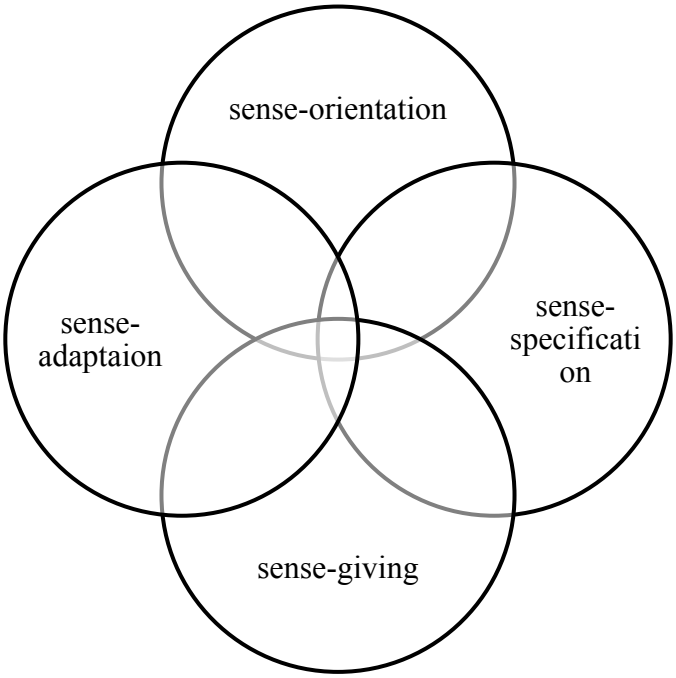

Figure 16. A conceptualization of sensemaking process

However, it is worth noting the individual variations in the process of sensemaking. In particular, individual sense-makers may not need to go through all four sense-making activities to accomplish understandings. For instance, Dong used much less energy for sense-orienting starting from the second year of implementing *Guopei* because there was not qualitatively new information that he needed to process. Individual sense-makers do not need to go through these

four sense-making activities in a given order either. For instance, after the first year of implementation, the principal of County Seat Secondary School Mr. Zhao received the message from his principal friend that the *Zhihuan* participating teachers from his school were "misbehaving" in rural schools. Then, Zhao jumped directly to the sense-giving activity without paying too much energy on developing general senses or specifying the implementing plans because those activities seemed to have been routinized in her school administration work.

Sensemaking and Policy Implementation

In addition to the sensemaking literature, my research findings can also speak directly to the field that intersects sensemaking and policy implementation. In particular, the research findings highlight the socio-cultural dimension of sensemaking in policy implementation. Furthermore, this study contributes empirical evidence generated from a Chinese context to the international discussion on sensemaking and policy implementation. Finally, this study has started to characterize how policy actors simultaneously make sense of a bundle of policies, a topic that previous studies have insufficiently examined.

First, the research findings highlight the socio-cultural dimension of sensemaking for policy implementation. In the first few years after Spillane and colleagues (2002) established an initial sensemaking framework, some scholars continued to refine the theoretical underpinnings of the sensemaking perspective (e.g., Coburn, 2005). To date, the theoretical branch of the literature has refined a set of factors that can influence policy actors' sensemaking, such as policy signals and organizational contexts (Spillane et al., 2002), and have distinguished individual versus collective sensemaking (Coburn, 2005). However, socio-cultural factors are missing in many current versions of the sensemaking frameworks, probably because these

studies either lumped the socio-cultural factors under the label of "context" or "place," or they do not see the need of highlighting the socio-cultural context for implementing policies.

However, the findings in this study suggest that the socio-cultural norms existing in a given context can provide policy actors with an additional set of logic to make sense of their implementation work. For instance, when Mr. Zhao found out about the teachers from his school "misbehaving" in the rural schools, the cultural concept of "losing *mianzi* (or face)" influenced his selection of sense-giving approaches (i.e., choosing to scold the teachers bluntly and severely). Similarly, both Wang and Yuan used the "*guanxi*" culture (roughly translated as interpersonal connections) to tweak their sense-specification efforts, with Wang intentionally avoiding dealing with the misconducting *Zhihuan* participating teachers who had "*guanxi*" with influential persons, and Yuan favoring his friend's daughter when he was distributing PD resources.

These findings call for the explicit consideration of socio-cultural factors in policy implementation studies. The definitions of culture abound, but what lies in the core of this concept is something: 1) collective; 2) concerning both beliefs and practices of people; 3) relatively stable over time (Hofstede, Hofstede, & Minkov, 2010; Shin, Ishman, & Sanders, 2007; Hofstede, 1980). Culture is embedded in almost every aspect of people's life, and one aspect that is especially consequential to policy implementation is interpersonal relationship because policy implementing actors heavily rely on it for carrying out policies (Coburn, 2001). To understand the cultured characteristics of interpersonal relationship in a given society, the questions below should be asked: What value(s) do people often prioritize when interacting with others? In what ways do people often exchange information and why? How do people often solve conflicts, or reach agreement? In short, culture can influence policy implementation

through its mediation of how people interact with one another in a given socio-cultural context, and thus it should be explicitly examined in policy studies. A revised version of the sensemaking framework could be breaking down the category of "context" or "place" into multiple layers, such as geographical, institutional, and socio-cultural contexts. Alternatively, the socio-cultural context could stand alone and be positioned as a broad background that contextualizes sensemaking and policy implementation. No matter which version, it is vital for researchers to address the socio-cultural dimension of sensemaking because it can help reveal a thread of influential power that is in play but tends to be ignored in the literature. Furthermore, emphasizing socio-cultural factors can help facilitate cross-cultural understandings of sensemaking and policy implementation. Cross-cultural understandings are of particular use for transnational policy actors who need to regularly cross national, social, and cultural boundaries to work on education reforms.

Second, using the data collected from a non-US and hierarchical education governance circumstance, this study confirms many previous studies' claim that sensemaking matters to policy implementation (Carraway & Young, 2015; Coburn, 2005; Spillane et al., 2002). Spillane and colleagues (2002) published a synthesis article entitled "Cognition and Policy Implementation" in *Reviewer of Educational Research*. After that, many scholars have started to use the sensemaking approach elaborated in this article to empirically examine the interplay between sensemaking and policy implementation (e.g., Ingle, Rutledge, & Bishop, 2011; März & Kelchtermans, 2013; Allen & Penuel, 2015). One consensus reached is that policy actors have the agency to mediate policy impact. This indeed is not a novel finding in studies on education reforms in countries that are relatively individually-oriented, such as the United States. The recognition of the agency of policy actors, widely defined, in education reforms can be traced

back to Weatherley and Lipsky's (1977) study about "street-level bureaucrats" and Cohen's (1990) case study on the instructional reform in Mrs. Oublier's classroom. However, most of these sense-making oriented studies were conducted in U.S. contexts.

Only recently has this framework started being used in other national contexts, such as Indonesia (Syahril, 2016), Japan (Glasgow, 2016), and South Korea (Cha & Ham, 2012). Building on this emerging line of cross-national application and adaptation of the sensemaking framework, this study contributed six Chinese policy actors' voices to the examination of the agency of people in different socio-cultural contexts. One the one hand, this study found that these local-level policy actors, while working in a hierarchical governance system, still demonstrated certain degrees of agency in shaping the policy implementation process and outcomes. For instance, even for Yuan and Cao, the two rural school principals with the limited institutional power they could leverage, they still developed strategies such as "whining" and using *guanxi* to try to obtain what they desired. Similar to what James C. Scott (2008) argued in his book *Weapons of the Weak*, even the least powerful peasants can develop material and ideological weapons to resist against oppression in many forms and on a daily basis.

However, the research findings also cautioned that not every policy actor could have enough agency to shape the policy implementation process and outcomes in the way he or she wished. Almost every actor in this study experienced moments when they lacked the sense of agency. For instance, Feng and Wang lacked sufficient resources to motivate teachers to participate in the *Zhihuan* policy. Yuan and Cao had persistent worries about having no adequate teachers to educate the students in their schools. Zhao was disappointed at the dis-synchronization between his perceptions of good teachers (being self-giving) and his young colleagues' active pursuit of their own good. These examples urge researchers to distinguish

between the agency that researchers claim that policy actors should have, could have, and actually have. If it is agency that policy actors do have, then what types of agency, to what extent, and under what conditions. The re-analysis of the grand claim that "policy actor matters" can help the research field understand both the rhetoric and realistic roles that policy actors can play in education reforms.

Third, this study offered an opportunity to examine how policy actors make sense of a bundle of policies at the same time. Many of the existing policy studies focus on one single policy. For instance, *Educational Policy* published a special issue on policy implementation in 2015. Almost every study in this issue chose to focus on one policy only, such as Common Core States Standards (Porter, Fusarelli, & Fusarelli, 2015), the Individuals with Disabilities Education Act (IDEA) (O'Laughlin & Lindle, 2015), and Ohio collective bargaining agreement (CBAs) (Ingle et al., 2015). While focusing on one policy has the advantage of going into great detail regarding its implementation, it is not the reality for many policy actors working on the ground. Instead, policy actors simultaneously work with multiple and changing policies on a regular basis. Sometimes, policy actors could be even struck in policy traffic, or in Mary Kennedy's term "reform clutter," (2010, p. 596) that too many reform ideas are competing for the actors' attention.

The research findings portrayed many different ways the policy actors deal with several policies at the same time. The two rural school principals (i.e., Yuan and Cao) participated in all three policies. Yuan said, "it's just one more piece of paperwork" when talking about implementing the *Tegang* policy, while Cao did not complain that there were too many policies going on. This might be because these two rural schools were relatively marginalized in the enactment of teacher workforce reforms and the implementing tasks assigned to them were

relatively mechanical such as filling out a form or selecting several teachers. However, the situation was a little different for the county-level actors. Feng worked with *Tegang* and *Zhihuan*. While he felt relatively easy to carry out the *Tegang* policy (e.g., "using others' fur to make your coat," Feng encountered a lot of difficulties in carrying out the *Zhihuan* policy, having received much resistance from the teachers. Benefiting from the experiences with both policies, Feng was also to compare and contrast the effectiveness of different policy interventions, and developed his theory about how to combine interventions for improving rural teacher workforce.

Other than the three policies, the policy actors also had many other reform initiatives and routine work they had to deal with. Sometimes, they manipulated the work across the boundaries to develop a holistic and workable plan for themselves. For instance, all three school principals used *Guopei* resources as an incentive to reward their high-performing teachers, which did not necessarily follow the logic of *Guopei*. Similarly, when encountering difficulties in enacting the *Zhihuan* policy, Feng and Wang borrowed the incentives from other domains of their work (e.g., professional promotion, monetary incentives) to motivate more teachers to participate in the *Zhihuan* policy. Though all these findings were exploratory, they started to portray the challenges and opportunities of policy actors working with multiple reform initiatives at the same time.

Implications for Research and Practice

This study has several implications for future research. First, researchers interested in conceptualizing sensemaking *process* can use the four sensemaking activities characterized in this study as a reference. They can refine these categories by investigating sensemaking occurring in different groups of policy actors, at different stages of implementation, or within

different contexts. To address the limitation caused by retrospective data, researchers can consider generating longitudinal data when (or soon after) sensemaking occurs in real time. Another interesting line of study can be collective sensemaking: What is the construct of collective sensemaking? How does it develop over time? What consequences does it have? Examining these questions can enrich the theorization of sensemaking from a collective perspective.

Second, researchers interested in policy implementation can further explore the agency of policy actors. This field has enough studies that show the agency of policy actors. However, little is known about what specific mindsets, ways of knowing, and actions can realize policy actors' agency and further lead to desired policy outcomes. Similar to how teacher education scholars identify high-leverage teaching practices (e.g., Ball, Sleep, Boerst, & Bass, 2009), future studies can investigate successful experiences of policy actors to start identifying and characterizing high-leverage implementation practices.

Third, this study points to two directions for future research on teacher workforce management. Scholars interested in policy design can further search for smart designs of policy interventions. For instance, this study found that teacher exchange could be a powerful intervention for equalizing teacher workforce, but it is still unclear what kind of and how much incentives are needed to achieve this goal for a given context. Researchers can pilot different combinations of incentives (e.g., material, promotion, honor) in experimental studies. Another line of research worth exploring is about how policy messages can be communicated. This study has documented several ways for communicating policy messages, such as mailing/emailing policy documents, debriefing in workshops, informing over the phone, and explaining in person. Future studies can compare the strengths and limitations of these ways of communication.

Researchers can also explore which way(s) of communication can help develop common understandings about the key information of a policy (e.g., goals, interventions, accountabilities) among policy actors, and motivate local policy actors to cooperate. However, the effectiveness of these strategies vary by context, given that policy implementation is contextually embedded.

This study also has practical implications for policymakers and those who carry out policies on the ground. For policymakers, a co-constructing approach, as opposed to the "I command, you follow" approach, may be a better choice. The more policymakers can engage local actors in the formulation of policy decisions, the more chances the policy would make sense to the local actors, and the more cooperation policymakers would receive from the local levels. In addition, policymakers need to design tailored, generous, and sustained incentives for realizing ambitious policy goals. As Vegas (2007) says, "Effective incentive schemes must be tightly coupled with desired behaviors and generous enough to give teachers a reason to make the extra effort" (p. 219). On top of what Vegas argues, the findings about Ms. Cao's rural school (in great need of policy resources but was structurally marginalized in resource distribution) suggest that policymakers also need to establish a system that can straightforwardly channel policy incentives to the targeted high-need schools.

As for local policy actors, this study can help them better understand and approach their implementation work. Particularly, the four sensemaking activities characterized in this study can provide them with an explanation for how they make sense of a policy. The "ripple effect" of sensemaking can make them more conscious of the consequences of their thoughts and actions, and then may make them feel more empowered and/or accountable for their work.

Reflection on the Research Methodology

The qualitative case study approach used in this study has demonstrated several strengths for studying sensemaking in policy implementation. First, this approach helps identify the contextual factors. For instance, even if I thought I had established mutual trust with each of the participants, they all declined my request to record the interviews. This reflects an unwritten rule, which might be caused by the tightening socio-political discourse, shaped the policy actors' thinking and behaviors. Similarly, this approach enables me to immerse myself into the local society, living as a local resident for several months. I lived in the teacher dormitories, dined with the policy actors, hung out with them in different occasions, initiated random conversations and observations with other community citizens, and participated in a range of community activities. All these experiences rewarded me with direct experiences that I could draw on to more deeply understand the policy actors' thoughts and actions. For instance, if in a decontextualized interview I heard Ms. Cao said that she made up the data in her application for *Tegang* teachers, I would have interpreted it as dishonesty or even micro-corruption. However, after staying with the school teachers and students for a few days, seeing how a few kids were left playing with themselves because of the lack of teachers, I started to develop a more understanding view of Ms. Cao's purposeful whining. In short, the qualitatively oriented approach has deepened my understandings about why the policy actors behaved or thought in certain ways. Such knowledge or gesture might not have been gained if I had used large-scale survey or decontextualized interviews to collect data.

This methodology is also useful for capturing the sensemaking process. As the existing literature suggests, sensemaking is subtle, fluid, and contextual (e.g., Weick et al., 2005; Spillane et al., 2002). These natures pose methodological challenges for researchers to characterize the

sensemaking process. During the three months of fieldwork, I was able to collect data from different sources (i.e., interview, observation, text), at different points of time (i.e., interview the participants multiple times, collect multiple years of teacher workforce data), and of different analytical levels (e.g., individual-, school-, and country-level). The richness of the data makes it possible to represent the policy actors' sensemaking from multiple angles and over time.

This study is also limited in several ways. First, the retrospective nature of the interview data might have made the participants' own accounts of their past experiences inaccurate (Golden, 1992). For instance, the first cycle of implementing the *Tegang* policy was in 2009. It is possible that what the policy actors thought about and did for implementing this policy in 2009 are different from what they recalled their memories and then shared with me in the interviews in 2016.

Another limitation of this study can be caused by the nature of the data generation process. Because of the participants' concerns, no interviews were tape-recorded. Though this study is not a linguistic analysis of what the participants said verbatim, the participants declining to be recorded itself implies that they might have self-censored what they shared with me. I have taken multiple strategies to minimize the limitation this unexpected situation might have caused. For example, I did not start the interviews until I felt I had established sufficient degrees of trust and comfort with each participant, probed the core information multiple times during an interview and in different ways, organized the interview notes right after the interviews when my memories were still fresh, and shared my interview notes with the participants to seek their feedback. These strategies did resolve some inconsistencies in the interview data, but it is still unknown whether some of them regularly edited the information they shared with me in the interviews.

Concluding Note

In the first few years of doing research, I was interested in evaluating policy impact. However, after I revealed an emerging policy-practice gap in my pre-dissertation project on China's Free Teacher Education (FTE) policy, I started being more curious about what happened during policy implementation process. With the question of "how policy ideas are constructed on the ground" in my mind, I started this dissertation project. Guided by a sensemaking framework, I am fortunate to be able to hear and share six policy actors' stories of implementing three teacher policies in a rural community in China.

My pre-dissertation and dissertation projects have investigated teacher policy by focusing on targeted teachers and implementing actors. Nevertheless, the voice of policymakers is still missing in the discussion. Thus, one research project I am planning on doing in the future is to investigate how policymakers formulate teacher policies. This project can bring the experiences and perspectives of policymakers to the analysis of teacher workforce reform. It can also help portray a fuller picture of teacher policy cycles. Such a holistic narrative can weave together the thoughts and actions scattered at different points on a policy cycle, and propose a systemic view for policy players to better make sense of and act on teacher policies.

Another research project I have been hoping to do for a long time is to synthesize and theorize the field of teacher policy. This work is important because in the past few decades teachers have been placed at the center of education reform in many countries (Robertson, 2012), but the field still lacks a shared conceptualization of teacher policy to guide the research and practice. To date, two recent studies have attempted to establish such conceptual tools. One is Rice and colleagues' (2008) review of teacher policy, which was focused on the typology of policy problems. The other study was conducted by Tatto (2008), and her synthesis centered on

the areas targeted by teacher policies, such as initial teacher preparation, teacher recruitment, and in-service development. Standing on these two pieces of work, I am planning on conceptualizing the interventions used by different teacher policy (e.g., incentives, alternative recruitment, teacher rotation), and conducting an extensive review of the empirical evidence about how different combinations of these interventions can lead to desired teacher workforce improvement in various contexts.

APPENDICES

Appendix A: Interview Protocols

The 1st round

Note: The purpose of the first round of interviews was to detect the nuances in implementing actors' sensemaking of the three teacher policies.

1. Questions about **individual-relevant inputs:**
- Please tell me what your job title and responsibilities are in the Education Bureau/school.
- What specific work do you often do in your job?
- How long have you been working here?
- How do you like your work so far?
- Tell me what things you often do to spend your time outside your work.

2. Questions about **policy-relevant inputs:**
- When and how did you know these policies?[25]
- According to your understanding, what are the primary goals of these policies? What rewards or supports do the policies provide to the local implementers? What are the other things you have known about these polices?
- What are the specific things you were asked by your superior(s) to do for implementing these policies?

3. Questions about **socio-political context inputs:**
- The Chinese government is attempting to make the work of civil servants more transparent than before, what implications or impacts does this trend have on your implementation work?
- What impacts does the ongoing urbanization process have on the County's rural schools and teachers?
- What are the major initiatives being carried out in the county in the past 3 years? What is the county most proud of? What are the toughest problems you are confronting?
- Generally speaking, what do you think of the teacher quality in the County's rural schools?
- According to your observations and work experiences, how important improving teacher quality is on the government's agenda compared to the development in other sectors, such as economy, agriculture, or medical care?

4. Questions about **outputs:**
- Tell me what accomplishments you have achieved in implementing these policies?
- What barriers or challenges did you encounter when you were implementing these policies?

[25] In the interview protocols, I use one phrase "these policies" to refer to the three policies I selected. However, when I interviewed the participants, I asked the same questions about each policy one by one. The reason for lumping the three policies into one phrase was to avoid the repetition of almost the same questions for different policies.

- What aspects of your implementation work do you think you want to improve in the future? Why and how?

The 2nd round

Note: The second round of interviews particularly focused on having the implementing actors elaborate on just one thing: How did they make sense of the policies they were implementing? I made this interview as open-ended as possible to solicit any information that the actors might want to share about their sensemaking of the policies. However, if some of them had limited information to share, I used the following leading questions to trigger their thoughts and talking.

- When did you know the policies for the first time?
- When did you know you were going to do some work on these policies?
- At your first glance, in what ways were these policies similar to the policies you have implemented before? How were they the same or different?
- What did you think of the policies when you first heard of them? In your opinion, how would they improve the teacher workforce in your county/school?
- What did you think of these policies after you started implementing them? Which parts were easy for you to implement? Which parts were challenging for you? Why? Which parts did you think you worked well? Which parts did you think that you could have done better? Why?
- Tell me your plan about the next steps of implementing these policies.
- Why do you plan to do these things? How would they be the same as your previous implementation? How would they be different?
- In your opinion, how much confidence do you have for carrying out the plan(s)? Why? To what extent do you think the plan would help improve the teacher workforce in your county? Why?

The 3rd round

Note: when a third interview was conducted, the major task was to validate the data already collected in interviews 1 and 2, and collect additional data. I used the following general questions to initiate and facilitate the conversations between the participants and me. For most of the time, I just improvised in raising questions to the participants.

- Why did you related these two things together?
- Please tell me more about this the relationships between A and B.
- How does this make sense to you?
- How has your sense-making impacted your implementation of these policies?

Appendix B: The Distribution of the Codes in the Interview Data

Themes	Preliminary codes	Feng	Dong	Wang	Zhao	Yuan	Cao
Sense-orientation	Counting on prior experiences	(1,2)	(1)	(1,2)	(1,2)	(1,3)	(1,2,3)
	Referring to the policy documents	(1,2)	(1,2)	(1,2)	(1,2)	(1,2,3)	(1,2,3)
	Representing their institutions	(1,2)	(1,2)	(1)	(1)	(2,3)	(1,2,3)
	Being more cautious during the anti-corruption era	(2)	(2)	(2)	(2)	n/a	n/a
Sense-specification	Pinpointing the specific problems and needs	(1,2)	(2)	(2)	(2)	(2,3)	(2,3)
	Complying with particular policy regulations	(1,2)	(1,2)	(2)	(1,2)	(2,3)	(2)
	Being aware of the institutional constraints	(1,2)	(1,2)	(1)	(2)	(1)	(1)
	The influence of *guanxi* on allocating resources	(2)	(1)	(2)	(2)	(2,3)	(3)
Sense-giving	Making a good case by arguing	(2)	(1)	(2)	(2)	(3)	(2,3)
	Appropriating power from the policy	(1,2)	(1,2)	(2)	(2)	(2,3)	(2,3)
	Appropriating power from the institutional role	(1,2)	(2)	n/a	(1,2)	n/a	n/a
	Using *mianzi* to persuade others	n/a	(2)	n/a	(1,2)	(3)	(2)
Sense-adaptation	Changing according to interim outcomes	(1,2)	n/a	(1,2)	(1,2)	(2,3)	(2,3)
	Changing according to the policy updates	(2)	(2)	(2)	(1,2)	n/a	n/a
	Changing according to different reform agendas	(2)	(1,2)	(1,2)	(1,2)	(3)	n/a
	Changing according to the changing society	(2)	n/a	(2)	(2)	(2,3)	n/a

Notes:
a. the numbers in the brackets denote in which interview(s) the participants mentioned the ideas of the corresponding codes. Note that Feng, Dong, Wang, and Zhao each had two interviews; Yuan, and Cao each had three.
b. n/a = no episode of the corresponding participant's interview data was identified with the corresponding code.

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