School-to-school Collaboration Enhancing Teaching: A Case Study in Zhejiang Province, China

Guangbao Fang

Bachelor of Education, Heilongjiang University

Master of Education, East China Normal University

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Name: Guangbao Fang

Signature:
Date: April 2022

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Dedication

To Dongzhe, and Keqin

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Publications and Presentations Relating to the Thesis

Journal articles

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List of Abbreviations

BG	BG Primary School
BSP	Beacon Schools Program
CB	CB Primary School
CEPS	China Education Panel Survey
CEO	Chief Executive Officer
CH	CH Primary School
DPP	Diversity Pathfinder Project
EP	Education group
FM	FM Primary School
MATs	Multi-Academy Trusts
MOE	Ministry of Education
MES	Modern Enterprise System
MOE	Ministry of Education
MUHREC	Monash University Human Research ethics committee
NLC	Network Learning Community
PRC	People's Republic of China
RM	RM Primary School
RMB	RenMinBi
SSC	School-to-school collaboration
ZD	ZD Primary School
ZS	ZS Primary School

Glossary

RMB (Yuan)	The Chinese unit of currency also called “RenMinBi” (RMB). The official rate of exchange in 1970 was US$1 = ¥1 yuan; in 1980, US$1 = ¥1.5 yuan; in 1995, US$1 = ¥5.4 yuan; in 2005, US$1 = ¥8.2 yuan; in 2010, US$1 = ¥6.8 yuan. As of April 2022, the exchange rate is US$1 = ¥6.4 yuan.
Schools	China’s public schools are divided into key schools and ordinary schools. In the 1980s, primary schools and junior high schools were also categorised as key or ordinary schools; although today they may not be so called, conditions in these schools basically remain unchanged. China’s formal higher learning institutions are also divided into double-class universities and ordinary universities

Abstract

School-to-school collaboration has been widely used as a means of reducing educational disparities on a national scale in both the West and China. Numerous studies examined the implementation of school-to-school collaboration and its effects on teachers and students through the lens of a single project. However, the development of Chinese school-to-school collaboration, which is frequently associated with reducing disparities between schools, is less well known. Nonetheless, in 1994, Hangzhou established the first school-to-school collaboration project, dubbed "Qiushi Education Group", and the importance and implications of school-to-school collaboration are well documented in the existing literature. However, little research has been conducted on the implementation of school-to-school collaboration considering the influences of educational policy, and the specific mechanisms by which school-to-school collaboration affects teachers are less well documented. This study chose one of the most prevalent forms of school-to-school collaboration in China, the education group, and sought to understand the evolution of education groups in China as a result of educational policies and the influence of education groups on teachers.

This project draws on theories of "organizational neo-institutionalism theory" and "network governance" to analyse a case study of the development of education groups and their impacts on teachers in China.

This project analyses the development of education groups and their impact on teachers in China using theories of "organisational neo-institutionalism" and "network governance".

I conduct a case study of a Chinese education group. Three major themes are examined in detail: (1) the education group's trajectory within the policy context; (2) the education group's implementation strategies and initiatives; and (3) the education group's influence on teachers. A pair of schools were chosen in Tongxiang, a city in Zhejiang Province, one of the most prosperous provinces in China in terms of per capita income. I reveal the following findings through document analysis, semi-structured interviews, and group interviews.

1. The educational group's trajectory and the forces that drive it as a result of educational policies. I propose that the education group's development in my case was divided into three stages and was influenced by three distinct types of institutions. In particular, from the perspective of the regulatory institution, the inspection of the balanced development of compulsory education and educational modernisation promotes the development of educational groups. Three types of social obligations have influenced the development of education groups from a normative institutional perspective: implementing national education policies, improving low-performing schools in rural areas, and reducing school disparities. From a cultural-cognitive institutional perspective, two modern schemas have shaped education groups: the schema of high-quality and equitable education and the schema of teacher identity (Chapter 5: The trajectory of the education group in China).
2. To execute education groups, four distinct types of network strategies have been developed. Additionally, the thesis indicates that the education group established the new Tiao-Kuai integrating governance structure and standardised the governing rules in order to share power resources. To facilitate the sharing of reputational resources among member schools, the education group established reciprocal

relationships and reinforced the education group's social impact. The education group promotes teacher mobility in order to maximise human resource utilisation. To facilitate the sharing of material resources, the education group provides opportunities for students to learn in other schools and strategies for teachers to collaborate on curriculum and instructional materials. (Chapter 6: Network strategies in the BG Education group).

3. As a result of the education group's influence, teachers undergo changes in four domains. This study demonstrates that teachers develop a new network identity and share collective goals in the personal domain. While in the practical domain, teachers' characteristics change over the course of their teaching careers. While novice teachers are eager to acquire or learn practical skills or strategies that they can immediately apply in their classrooms, experienced teachers are more concerned with employing specific student-centred teaching skills, such as encouraging students to regulate their own learning and demonstrating concern for their needs, as well as cultivating students' creativity and imagination. On the domain of consequences, the education group alleviates teachers' teaching pressures and provides a more flexible learning environment for students. In terms of the external domain, the education group was deemed the external source for teachers due to its sharing of teaching resources and expert teachers, as well as increased opportunities for learning at the school and teacher levels (Chapter 7: Teacher changes in the BG Education Group).

The study argues that the development of education groups in China can be explained by organisational neo-institutionalism and network governance theories, which identify the driving forces and implementation strategies. Additionally, the study argues that education

groups are an effective strategy for reducing school disparities and enhancing teacher effectiveness in the Chinese context.

CHAPTER ONE
Introduction

1.1 Context of the study

Accessing an equal and high-quality education for all children is a central challenge for educational policymakers worldwide. School-to-school collaboration can be an effective strategy for resolving this issue through decentralising educational management, empowering schools, and enhancing schools' autonomy (Keddie, 2015). In Western countries, substantial research has been carried out on the impacts of such collaboration on teachers and students and how school-to-school collaboration would improve educational quality (Chapman & Hadfield, 2010; Chapman & Muijs, 2013, 2014; Donnelly & Gallagher, 2008; G. B. Fang, K. W. Chan, & P. Kalogeropoulos, 2021a). However, the empirical evidence of the significance of how school-to-school collaboration impacts teachers in Chinese school improvement is less well documented.

Many remarkable reforms in Chinese education have occurred since 1949, the year when the People's Republic of China was established (S. Li, 2019; She & Shan, 2019), such as enhancing teaching and learning qualities in primary and secondary schools (Sun & Xu, 2019), establishing and abandoning the "key school" [1] strategy (X. W. Yang, 2014),

[1] The key school means that within a district (county), a very limited number of schools are named key schools. These key schools can gain priority in receiving resources (e.g., outstanding teachers, teaching facilities and funding), while other schools are named as ordinary schools, which share the remaining resources. Thus, in one district, there could be one or two key schools, while the remainder are ordinary schools. Moreover, high-performing students are always more likely to seek access to a key school than a regular school because of its good reputation, better teachers, and exceptional educational quality. The key school system was established in 1953 and proposed by Mao Zedong. It was disrupted during the Cultural Revolution (1966-1976) and re-established in 1978. In 2006, the policy of key schools was abandoned as it led to significant disparity among schools. The current problem is that, although the concept of school was not allowed to be used in educational policy, the key school has been replaced by

and implementing a nine-year compulsory education system (Yuan, 1999). However, China is still facing problems of educational inequity (Liao, 2019; OECD, 2016). Postiglione (2019) forecasted that promoting the balanced development of compulsory education is a major challenge for Chinese education heading into the future. In particular, there are challenges in narrowing the rural-urban divide and ensuring equal access to schools for all school-aged children. Therefore, closing gaps between schools and regions, as well as ensuring that everyone has an equal chance, are top priorities for Chinese education growth.

The education group[2] is an important strategy to address the aforementioned issues (X. W. Yang, 2014). Implementation of this initiative is essential for two reasons. Firstly, educational expectations in China have shifted from equal access to school to students being equally educated in the classroom (G. R. Fan & Sun, 2018). Secondly, China's education management system is undergoing a transformation from centralisation to decentralisation, with an emphasis on school autonomy (G. R. Fan & Sun, 2018).

Encouraged by sound educational policies such as the ten-year national plan "National medium-and long-term educational reform and development plan outline (2010-2020)" and the "Educational Inspection" strategy for evaluating rural-urban schools on thirteen criteria (Chinese Ministry of Education, 2017b), education groups have been widely implemented and yielded positive results in a variety of provinces and cities across China (L. Zhang & Meng, 2018). For example, Zhejiang was

some new concepts, such as experimental schools (实验校), characteristic schools (特色校), and demonstration schools (示范校). More detailed information is provided by Yuan (1999).

[2] Education group is one of critical forms of school-to-school collaboration in China.

one of the first two provinces, which has passed the inspection on the balanced development of compulsory education, conducted by the Chinese Ministry of Education (MOE) in 2014 (The Chinese Ministry of Education, 2014). The key to Zhejiang's educational achievement is its reliance on education groups to improve the teaching quality in low-performing schools (J. Shen, 2018; X. W. Yang, 2014; Yu & Ruan, 2017a).

This study is located in the debates on how the education group influences teachers in China. It applies organisational neo-institutionalism theory (R. W. Scott, 2001) and network governance theory (Sørensen & Torfing, 2005) to assess the developing trajectory of the education group in China and investigates its impacts on teachers. More specifically, this study has three objectives: Firstly, it seeks to shed light on the evolution of education groups and their driving forces through the lens of an institutional environment. Secondly, with limited knowledge of the education group's implementation process, this study evaluates the specifics of the education group's implementation by discussing the strategies used and their interrelationships. Finally, the study examines the effects of the education group's implementation on teachers by examining the relationships between teachers' various aspects of growth and the development of education groups.

1.2 The research questions

After acknowledging the significance of education groups for addressing the problem of school disparities, the main research question and sub-questions that informed the project are set out below.

The main question is:

How does the education group enhance teachers' change to reduce school disparities in Zhejiang province?

The three sub-questions are:

(1) What are the trajectory and the driving forces of the education group's development?

(2) What kinds of network strategies have been initiated within the education group?

(3) Which aspects of teachers have been facilitated by the education group?

1.3 The rationale of the study

Through this project, I sought to understand the trajectory of past and future development of education groups in China, which have been implemented as an effective strategy to narrow the disparities between schools.

The main aim of this study is to examine the development of Chinese education groups and their influences on teachers. This study tries to fill two gaps in the existing research: (1) explaining the influences of the institutional environment on the development of education groups (J. Liu, 2021), and (2) identifying the influences of education groups on teachers (L. Zhang, 2019). Guided by the organisational neo-institutionalism theory (R. W. Scott, 2001), I further elaborate on three types of institutions (regulative, normative, and cultural-cognitive institutions), which act as driving forces for the development of education groups.

In addition, this study could contribute to the theoretical development of education groups by introducing the concept of network legitimacy (Provan, Kenis, & Human, 2008)

and explaining how the BG Education Group [3] addresses the problem of school isomorphism (DiMaggio & Powell, 1983; X. W. Yang, 2014). School isomorphism describes the phenomenon of member schools (low-performing schools) replicating the high-performing schools' developing model by inputting resources, school values, and culture. Network legitimacy and school isomorphism will be explained in Chapter 3 and Chapter 6 in detail. The findings of this study could yield practical ways of implementing education groups to reduce school disparities and foster teachers' professional development.

1.4 Scope of the Study

This thesis is divided into eight chapters. In this introductory chapter (Chapter One), I outline the overall framework of this study by discussing the context, purposes, research questions, significance, and overall structure of the thesis.

Chapter Two (**Reviewing school-to-school collaboration research**) reviews the previous literature to provide the conceptual foundations of school-to-school collaboration in the West and the education group in China along with their implementation and influences.

It discusses various aspects of research on school-to-school collaboration globally and research on education groups in China, including the conceptual underpinnings, motivations, strategies, influences, and challenges. Following a review of the general concept of collaboration, the concept of school-to-school collaboration is discussed,

[3] BG Education Group is the case of this project.

followed by the concept of the education group, which is one of the main forms of school-to-school collaboration in China. Additionally, this chapter summarises key findings from previous research and identifies three areas that warrant further investigation. To begin, existing research argues that school-to-school collaboration (the education group) is motivated by school needs or mandated by governments. However, these studies disregard the institutional environment's influence. Second, existing research indicates several beneficial strategies. However, these studies do not explore the connections between these strategies, concentrating on the practical implications for establishing school-to-school collaboration and disregarding their theoretical implications for developing a theory of network legitimacy. Finally, existing research focuses exclusively on the effects of school-to-school collaboration (education group) on teachers, while ignoring the recursive effects of teachers' growth on the construction of school-to-school collaboration (education group). Thus, Chapter Two explains why the study is important and how it compares to other research in China and the West.

Chapter Three (**Theorizing school-to-school collaboration**) develops a combined theoretical framework around which this research was conducted. This chapter begins by discussing the theoretical difficulties inherent in the research on school-to-school collaboration (education group). For instance, school-to-school collaboration is always examined at the school level, despite the fact that it has resulted in the emergence of a new organisational form, named network organisation. As a result, a new framework is required that integrates network organisations, schools, and individuals. This study further develops a three-level framework (macro institutional environment, meso schools, and micro individuals) based on two theories. The first theory is the organisational neo-institutionalism theory, which is primarily used to explain the institutional environment that influenced the education group's development and includes regulative, normative,

and cognitive-cultural institutions. The second is network governance theory, which is primarily concerned with the interactions and exchanges of resources between schools and individuals. Finally, this chapter justifies the application of these two theories in greater detail.

Chapter Four (**Methodology**) outlines the methodology of this study. It begins by briefly defining constructivism and then discusses the reasons for adopting qualitative research. Additionally, this study argues that the case study approach was chosen because my research subject has a distinct boundary. It discusses the methods and rationale behind the selection of the research location, participants, and data collection methods, which include documents, semi-structured interviews, and focus groups. Additionally, I describe the specific data analysis process, including how I analyse document data and conduct thematic analysis. Finally, I talk about the credibility of my research and ethical issues at the end of this chapter.

Chapter Five (**The trajectory of the education group in China**) depicts the education group's development trajectory and explains its driving forces using the organisational neo-institutionalism theory. The chapter begins by describing the stages of development of the education group in China and then introduces the stages of development of the education group in Zhejiang Province, specifically in Hangzhou, the provincial capital of Zhejiang, and Tongxiang, the location of my case. Following a description of the education group's development stages in China, the chapter discusses the driving forces behind the development. According to the organisational neo-institutionalism theory, three types of institutions have been identified to aid in the development of the education group. Firstly, from the perspective of regulative institutions, this study argues that the inspection of the balanced development

of compulsory education and the inspection of educational modernisation both contribute to the development of the education group. Secondly, from the perspective of normative institutions, the social obligations associated with implementing national education policies and rescuing low-performing schools prompt principals and teachers to participate in the education group. Such participation helps them fulfil their social responsibilities associated with educational equity. Finally, from the perspective of cultural-cognitive institutions, the schemas associated with educational equity and teachers' identity schemas may encourage or motivate principals and teachers to participate in and contribute to the development of an education group.

Chapter Six (**Network strategies within the BG Education Group**) discusses the network strategies for the education group's implementation. This chapter discusses eight network strategies for sharing and re-constructing four distinct categories of resources: power, reputation, human, and material. More precisely, the education group reorganised its governance structure and standardised governance rules in order to more effectively share power resources. In terms of reputational resources, the education group employed strategies such as building reciprocal relationships between schools and reinforcing the education group's social impact. In addition, to facilitate the sharing of human resources among schools, the education group developed a teacher mobility plan to balance teacher resources among member schools. Then, concerning material resources, the education group provided collective activities such as lesson preparation and polishing. Finally, the chapter discusses the relationships between these network strategies and their influence on the formulation of network legitimacy.

Chapter Seven (**Teacher changes in the BG Education Group**) discusses the education group's influence on teachers. This chapter discusses how teachers'

characteristics changed across four domains: personal, practical, external, and consequential. More precisely, teachers developed their network identities and collective goals within the education group. This study argues that novice and experienced teachers in the domain of practice had distinct concerns and sought distinct benefits from the education group. Teachers were able to reduce their teaching pressures as a result of the education group, while students could learn in a more flexible climate in the domain of consequence. Additionally, the education group could serve as an external resource, enhancing teachers' educational resources and opportunities through sharing and exchanging. At the conclusion of this chapter, the difficulties that teachers and principals encountered are discussed.

Chapter Eight (**Development of the education group in China**) concludes that the development of education groups would effectively address school disparities. This chapter discusses the study's theoretical and practical implications in greater detail. It explores some limitations and possible future research directions.

1.5 Summary and commentary

This chapter provides an overview of the research. By conducting a qualitative case study, this research examines the implementation of the education group and its influence on teachers using the organisational neo-institutionalism theory (R. W. Scott, 2001) and the network governance theory (Sørensen & Torfing, 2005). Seen through these lenses, the data from this study illuminate the details and mechanisms underlying the education group's development trajectory, as well as the manner in which network strategies are implemented within the education group, which also affects teachers.

CHAPTER TWO
Reviewing School-to-school Collaboration Research

2.1 Introduction

Collaboration between schools has been used in a variety of ways to address different educational issues in a global setting. For example, in the United Kingdom, the Teaching School (Chapman, 2013), and Multi-Academy Trusts (Greany & McGinity, 2021) were established to improve educational quality and foster teacher professional development, while in Northern Ireland, the Shared Education Programme (Duffy & Gallagher, 2017) was utilised to promote social cohesion and close racial gaps. In contrast to the mentioned three programmes, the Chinese education group is committed to reducing school disparities and educational injustice across schools and districts (X. W. Yang, 2014).

While these various forms of school-to-school collaboration serve distinct purposes, they all share three characteristics: (1) they are premised on a collaborative philosophy (Chapman, 2008); (2) a new organisational structure has been created to ensure the program's implementation (Chapman & Hadfield, 2010); and (3) to a certain extent, these programs have a positive effect on teachers and students (Chapman & Muijs, 2013; Wu, Shen, Reeves, Zheng, & Anderson, 2021).

This chapter reviews prior studies on school-to-school collaboration that have been published in both English and Chinese. Taking into account the interchangeability of the terms collaboration, cooperation, alliance, federation, partnership, and network, this study

discusses research on these ideas in English. Additionally, there are other forms of school-to-school collaboration in the Chinese context, and the education group is separate from other collaborative projects, such as the school district or rural-urban educational community (Yu & Ruan, 2017b). As a result, this study will concentrate primarily on education group research.

This chapter begins with conceptualising collaboration, focusing on its connotation, and then defines school-to-school collaboration and the education group, a subset of school-to-school collaboration in China. According to the previous literature, this study compares the related concepts, such as collaboration, cooperation, and networks, and reveals the potential among them. Moreover, the details of implementing various forms of school-to-school collaboration are presented, including themes such as the motivations for collaboration, organisational structure, strategies, and problems associated with implementation. The effects of school-to-school collaboration on teachers and students are then discussed in depth. At the end of this chapter, the potential research gaps are identified and the rationale for this study is presented.

2.2 Conceptual foundations of school-to-school collaboration

2.2.1 Defining collaboration

The definition of collaboration in academic research and practice presents a dilemma. On the one hand, various fields of study have conducted extensive research on the phenomenon of collaboration, including organisational management, political science, and educational research (P. W. Armstrong, Brown, & Chapman, 2021; Glatter, 2003; C. Guo & Acar, 2005; Murphy, 1991; K. Z. Zhang, 2007). On the other hand, collaboration is a challenging idea to define academically as a colloquial concept (K. Z. Zhang, 2007).

As a result, this study introduces the concept of collaboration through a multi-disciplinary lens.

Various synonyms for collaboration are interchangeable, including network, federation, partnership, and cooperation. However, we frequently miss the distinction between collaboration and cooperation when discussing these topics. Bolman and Deal (2017), for example, described the collaboration as "lateral coordination" with the goal of "preventing top-down control from suffocating initiative and originality" (p. 60). Additionally, they stated that lateral coordination entails collegial collaboration to accomplish an organisation's communicated goals through official or informal ways (Bolman & Deal, 2017). Their research, however, makes no distinction between collaboration and cooperation.

Several studies in organisational research attempt to indicate three differences between collaboration and cooperation (Hord, 1986, 1997). To begin, cooperation occurs in concessions, whereas collaboration exists in joint ventures. Second, cooperation is a one-way flow of information, whereas collaboration is a continuous and multi-directional interchange of information. Finally, cooperation retains sole ownership of resource exchange, whereas collaboration necessitates resource sharing contributions from all participants. Hord (1986) highlighted these distinctions by stating that collaboration entails reciprocal resource sharing and demands the participation of all parties.

Similar to the research of Hord (1986) on the perspective of organisation, K. Z. Zhang (2007) defined collaboration and reported six distinctions between collaboration and cooperation from a political philosophy perspective. Collaboration is a type of human group activity, that consists of three levels: mutual assistance, cooperation, and collaboration, with collaboration being the highest level, as it aims to accomplish not only

practical purposes, such as problem-solving but also represents the rationality of human beings (K. Z. Zhang, 2007). In addition, the following five differences between collaboration and cooperation are highlighted (K. Z. Zhang, 2007, pp. 114-125):

(1) Collaboration is an ongoing activity with a defined direction, whereas cooperation has a defined and singular objective.

(2) Collaboration is developed on the basis of equal status for all members, with the overall benefits taking precedence over the individual benefits. Cooperation, on the other hand, is a resource exchange process that is primarily concerned with compensating for the faults of the participants in the process.

(3) Collaboration can improve the well-being of all members, even if its primary objective is not to increase self-interest, whereas the main purpose of the cooperation is to enhance self-interest.

(4) Collaboration should be guided by moral imperatives. Only when a moral disagreement arises within the collaboration, the dilemma should be resolved by law. Cooperation, on the other hand, is governed by law rather than morals.

(5) Participants retain their autonomy in collaboration while being compelled to cooperate.

Both K. Z. Zhang (2007) and Hord (1986) interpreted cooperation statically, although some other research viewed collaboration as a spectrum that evolved in response to the various organisational structures (Sullivan & Skelcher, 2002). Sullivan and Skelcher (2002) utilised collaboration as a catch-all term for these themes. They viewed collaboration as a spectrum: at one end is network collaboration, which involves informal

and loose interactions between companies; at the other end is integration cooperation, which involves highly structured and formalised relationships between organisations (Sullivan & Skelcher, 2002). Collaborative forms were classified as network, partnership, federation, and integration based on governance norms and the intensity of relationships between organisations (Sullivan & Skelcher, 2002). The details are shown in Table 2-1, below.

Table 2- 1 Forms of collaboration

Form of collaboration	The loose network of informal, ad hoc relationships	Limited agreement to share information	Agreement to undertake activities jointly	Agreement to constitute a formal governing body	Creation of a federal structure in which participating bodies agree to devolve upwards some of their autonomy	A merger of participating bodies into a single organisation
Rules of governance	Self-government through mutual norms and obligations and shared values and trust	←			External government through the overarching constitution	Hierarchy
Organisational and policy terminology	Network	Partnership			Federation	Integration

Data source: Sullivan and Skelcher (2002, p. 42)

As with Sullivan and Skelcher (2002), Shinners (2001) identified a spectrum of collaboration by comparing the definitions of cooperation, coordination, and collaboration. Cooperation refers to informal ties between groups that lack a common framework, whereas coordination refers to a more formal partnership. Finally,

collaboration refers to formal relationships between organisations that involve pooled resources and a shared structure (Shinners, 2001).

Within the educational environments, for example, Hart (1998) defined collaboration as a practice that "facilitates the education of children and youth, enabling educators to have access to expanded knowledge, resources, and creative alternatives for action" (p. 90) and collaboration occurs through cooperation among participants of equal standing. Similarly, Hord (1997) characterised collaboration as occurring when "faculty call on one another to discuss the development of practice and process skills related to the implementation of practice" (p. 14). That is, collaboration is a form of collegial support aimed at resolving difficulties via the sharing of resources and experiences. DuFour and DuFour (2010), however, argued that the definitions of collaboration of Hart (1998) and Hord (1997) still have room for improvement. Firstly, Hart and Hord continue to conflate collaboration and cooperation. Secondly, collaboration was viewed by them as a destination rather than a means to a goal. Consequently, DuFour and DuFour (2010) described the collaboration as representing "a systematic process in which teachers work together interdependently in order to impact their classroom practice in ways that will lead to better results for their students, for their team, and their school" (p. 12).

Atkinson, Springate, Johnson, and Halsey (2007) offered a three-dimensional framework for assessing school collaboration in their systematic review, which included organisational commitment, penetration of collaboration and joint investment or vision. Therefore, conceptually, it appears as though the intensity of interactions, the exchange of resources or information, and joint structures between organisations might be considered the three benchmarks for classifying collaborative types between organisations. Based on the above discussion, this study adapts the concept of

collaboration defined by DuFour and DuFour (2010) in the educational context, which refers to a systematic process in schools by working together interdependently to improve the educational performance and equity of those participating schools through a series of joint actions.

2.2.2 School-to-school collaboration

School-to-school collaboration is a broad concept that takes on a variety of forms throughout the world. School federation is one of the typical types of school-to-school collaboration in England (Chapman, Muijs, & MacAllister, 2011), which consists of multiple schools and aims to improve students' performance (Chapman & Muijs, 2013, 2014). The program was initiated by the British Government in 2002. Lindsay et al. (2007) proposed four distinct types of school federations in their final evaluation report.

(1) Hard governance federation – established in accordance with legislative provisions under the Education Act 2002, with a single governing body overseeing the management of entire schools and similar goals and values among participating schools.

(2) Soft governance federation - likewise based on statutory regulations under the Education Act 2002, highlighting the need for each school to have its own governing body or a joint governing committee.

(3) Soft federation –one that is not governed by regulations and in which each school has its governing board.

(4) Informal/loose collaboration - schools collaborate through informal arrangements.

Chapman et al. (2011) included cross-phase federations, which connect schools in

various stages, and performance federations, which link high and low performing schools. In another synthesis study, Chapman (2013) examined the evolution of school federation and its impact on policy and practice in England in another synthesis research. He discovered a distinct, progressive trend from federations through academy chains to teaching schools (Chapman, 2013).

In 2010, the UK's Department of Education published "The Importance of Teaching" document, emphasising the importance of the finest schools and principals serving as mentors to encourage systematic change throughout the school system (Gu et al., 2016). Thus, while the nature of school collaboration remained the same, the name federation was replaced with the term "academy chains" (Chapman, 2013). As a result of the "self-improving school system" (Hargreaves, 2010), some of the nation's high-performing schools were designated as "teaching schools" and gained additional resources (Gu et al., 2016). They responded by providing professional development for in-service teachers and collaborating with low-performing schools to improve students' performance (Chapman, 2013).

To improve their autonomy, several schools were elected to separate from the local authority's jurisdiction and establish themselves as independent schools, referred to in England as academies (National Archives, 2018). These new academies formed official groups called Multi-Academy Trusts (MATs), the number of which has expanded dramatically in recent years (Greany & Higham, 2018; Simkins, Coldron, Crawford, & Maxwell, 2018; Simon, James, & Simon, 2021; Simon, James, & Simon, 2017). In comparison to school federation, MATs is a novel kind of school collaboration (Greany & Higham, 2018), characterised by four distinct structural characteristics (Simon et al., 2021).

(1) They are organised hierarchically.

(2) MATs are not spatially limited.

(3) They are not limited in terms of the number of academies that can participate.

(4) MATs may include schools at various stages of development, such as primary and secondary.

MATs, as one of the most recent types of school-to-school collaboration, have garnered widespread attention from scholars. For example, previous studies have explored the structural features of MATs (Greany & McGinity, 2021; Simon et al., 2021), the implementing strategies (Baxter & Floyd, 2019), system leadership within MATs (Constantinides, 2021; Courtney & McGinity, 2020), and the roles of Chief Executive Officer (B. Hughes, 2019, 2020).

In Northern Ireland, the shared education program, another form of school-to-school collaboration, was created to bridge socioeconomic and religious divides (Gallagher, 2016). Initially, shared education necessitated collaboration between schools of many religious denominations, and students from diverse groups could take classes together. In contrast to the goals of a school federation or teaching school in England, the shared education program aimed to reduce social segregation and increase social cohesion (Borooah & Knox, 2013; Gallagher, 2016). Thus, in England, school collaboration was viewed as an educational tool for achieving educational reform, whereas in Northern Ireland, school collaboration was used as a social tool for resolving the issue of cultural and religious segregation (Gallagher, 2016; J. Hughes & Loader, 2015, 2021). More precisely, Duffy and Gallagher (2017) established a dynamic conceptual framework they called the sharing continuum to characterise the evolution of shared education across time,

establishing a direction for collaboration and evaluating the changes among participating schools. The sharing continuum proposes six stages of collaboration among schools, ranging from isolation to symbiotic partnerships (See Figure 2-1).

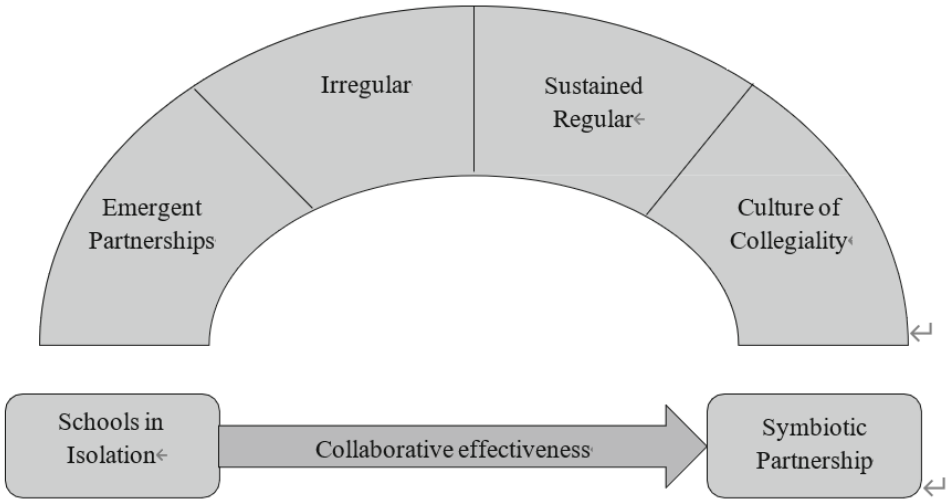

Figure 2- 1 The sharing continuum

Data source: Duffy and Gallagher (2017, p. 113)

According to the above discussion on various forms of school-to-school collaboration, this study argues that it is a complicated phenomenon characterised by a variety of kinds of collaboration that are difficult to define properly. This study takes a descriptive approach to define this complex concept, stating that school-to-school collaboration refers to compulsory schools cooperating to create win-win relationships through resource sharing (curriculum, teachers, and other facilities), intending to reduce school disparities, achieve educational equity, and improving the overall educational quality of all member schools. The school-to-school collaboration examined in this study is distinct from the school-university collaboration in that the former is not guided by a university or college (Bu & Han, 2019).

2.2.3 Education group in China

School-to-school collaboration has a long history and been frequently adopted to improve educational quality in the Chinese context. In 1935, Liu Baichuan (刘百川) started the early exploration on utilising school-to-school collaboration to share resources between schools in Jiangsu rural area (J. Fan & Yang, 2022). Similarly, school-to-school collaboration also adopted as a main strategy by the local education bureau to improve educational quality in rural area when the People's Commune (人民公社) was widely established in Chinese rural places in 1958. Before this time, school-to-school collaboration in China was mainly focused on the rural schools' improvement. While after 1980s, influenced by the developing value of economic construction gives priority" and the extending educational disparities between schools, school-to-school collaboration was adopted to address the educational inequity.

There are numerous types of school-to-school collaboration, including schooling districts (学区化办学) (D. D. Guo & Zheng, 2015; H. M. Wei & Huang, 2017), rural-urban collaborative communities (城乡一体化共同体) (D. Chen & Meng, 2015), and education groups (集团化办学) (S. Zhang, 2017). In China, education groups are one of the most influential and ubiquitous kinds of school-to-school collaboration.

Education group is a grassroots effort to improve the educational quality of low-performing schools (X. W. Yang, 2014). Although the education group has been widely developed in a variety of locations, there is no agreement on its definition. The following are many representative definitions:

S. Zhang (2017) defined education groups as the collaborative and mutual connections between two or more schools that are directed by shared visions and

constrained by a specific contract.

According to An (2020) and J. Zhang and Cheng (2018a), the education group is the synthesis of relationships between high- and low-performing schools, to improve the teaching quality of low-performing schools through sharing or mobilising resources by high-performing schools.

Duan (2018b) defined the education group as a school development community comprised of one or more schools within a district; it is led by the government and attempts to improve the teaching quality in those schools.

Based on the three definitions provided above, this study identifies four commonalities in the connotation of the education group.

(1) The education group consists of two or more schools.

(2) The participating schools developed a mutually beneficial connection.

(3) The education group's goal is to eliminate school gaps by enhancing the teaching quality of low-performing schools.

(4) The education group developed multiple ways to aid in its development, including resource sharing and instructor sharing.

The above four features of education groups serve as the conceptual foundation for this study, which aims to comprehend and investigate the implementation of education groups in the Chinese environment.

2.3 Implementation of school-to-school collaboration

2.3.1 Motivations for participating in school-to-school collaboration

Sullivan and Skelcher (2002) provided a conceptual framework for evaluating the motivations for forming partnerships, which included three perspectives: optimist, pessimist, and realist. Optimists view collaboration as a means of establishing a shared vision among organisations. Pessimists define motivation as the process of preserving or enhancing an organisation's power or resources (Sullivan & Skelcher, 2002). Finally, the realist approach views firms' decisions to form partnerships as a response to the changes elicited by changing circumstances (Sullivan & Skelcher, 2002). Dickinson and Glasby (2010) added two aspects to these three constructs: pragmatist and mimetist. According to the pragmatist perspective, partnerships are a helpful tool, and hence engaging in them benefits organisations, but the mimetist perspective stated that individuals and organisations participating in partnerships will behave, or be expected to behave, similarly to others (Dickinson & Glasby, 2010).

Feys and Devos (2015) discovered that schools in Belgium initially operated under negative motivations, such as securing resources and avoiding isolation in order to engage in incentivised networks. Unlike voluntary networks[4], the motivations for forming such networks can be classified as pessimist, pragmatic, or mimetist attitudes on collaboration (Dickinson & Glasby, 2010; Sullivan & Skelcher, 2002). Additionally, Feys and Davos (2015) discovered that around half of the schools interviewed altered their motivations

[4] A voluntary network is established in a bottom-up approach by the participants who truly engage in it and collaborate without any incentives.

after joining incentive-based networks. That is, certain schools modified their perspectives on collaboration from pessimistic to realist. Furthermore, they found that these changes were associated with internal or external factors, such as shared purpose, trust, history, and network size within or between schools (Feys & Devos, 2015).

Similarly, Connolly and James (2006) analysed school collaboration incentives using resource dependency theory and an institutional framework. Participating in school collaboration entails an exchange of resources between schools, according to resource dependency theory. From an institutional framework standpoint, school collaboration is primarily concerned with developing a legal, social structure among schools (Connolly & James, 2006). According to Chapman and Muijs (2013), schools form federations for three key reasons: to share effective teaching practices and resources, to learn from and be supported by other schools, and to maximise their resources and teachers.

In China, the rationale for joining an education group is significantly more convoluted. To begin, a bottom-up school initiative was developed by low-performing schools to address their survival challenge by leveraging the resources of high-performing schools (X. Y. Yang & Yang, 2020). Once the favourable impacts of the education group are widely recognised, the education group becomes a top-down policy with the administrative authority to compel high-performing schools to participate (L. Z. Cao & Fang, 2020; W. Y. Li, Xu, & Wang, 2021).

2.3.2 Organisational structure within the school-to-school collaboration

As a novel type of organisation, school-to-school collaboration has produced a new organisational structure, which is an essential research component in school-to-school collaboration studies. Q. Li (2006) examined the organisational structure changes

associated with the growth of school collaboration over fifteen years. He stated that a linear organisational structure becomes a network structure. The former refers to the single direction of resource sharing from high-performing schools to low-performing schools; the latter indicates that the participating schools have created a reciprocal connection (Q. Li, 2006).

Meng and Chen (2013) examined the collaborative structure of rural-urban school networks from four perspectives: educational bureaus at the city level, educational bureaus at the county level, urban schools, and rural schools. Y. R. Li (2019) discovered that the sort of links between schools was influenced by their historical connections and principals' relationships.

Furthermore, L. Zhang and Meng (2018) classified school relationships within the education group into four categories: core-school relationships, in which one school serves as the dominant school[5] within the group and all other member schools have a connection to this school but no connection between member schools. The extended-school structure is one in which all schools within a group are connected; the hierarchy-linear structure is one in which schools build hierarchical relationships from the top down in a linear fashion, and the nested-school structure is the most complicated structure among schools. There is a little discernible distinction between the dominant and member institutions, and each school maintains close ties with the others.

S. Zhang, Meng, and Chen (2013) proposed a three-dimensional framework for characterising the structure of rural-urban school networks, encompassing explicit school

[5] Dominant school is the school response the development of the education group.

features (school name, buildings, and symbols), school structure (organisational structure, management system), and school quality (educational quality, school reputation, and school climate). Another study used this notion to identify five rural-urban school network models (S. Zhang et al., 2013). Duan (2018a) advocated a dynamic organisational structure inside the education group in contrast to these static relationships. He began by providing a new framework based on the theory of cross-organisational collaboration, which consists of three fundamental components (Duan, 2018a).

(1) Strengthening communication links between all member schools.

(2) Sharing resources among member schools.

(3) Developing new, mutually agreed-upon values to steer the education group's advancement.

Duan (2018a) presented a three-stage model to characterise the growth of the chain relationship in the education group. To begin, member schools formed a one-to-one working relationship (Duan, 2018a). Then, during the intermediate stage, the one-to-one relationship between member schools is linked to the dominant school (high-performing school), resulting in the development of a one-way network relationship. The dominant school is regarded as the central node of the network (Duan, 2018a). Finally, this one-way network interaction transformed into a two-way network resembling a web (Duan, 2018a). Ren and Zhang (2020) specifically examined the educational group's developing direction, as it constructed new features by combining its current experience and input from high-performing schools.

Moreover, S. Zhang (2017) defined the term "education group model" to refer to the organisational relationships within an education group. After summarising the

development of education groups in Beijing, S. Zhang (2017) asserted two criteria for categorising education group models: the amount of collaboration and the dependent relationships between member schools. She used the terms attachment and equilibrium to characterise the degree of dependency and collaboration. She used these two standards to describe eight education group models (pp. 90-91), as follows.

(1) The selective equalisation mode is a formative stage of the education group. There are temporary and short-term collaborative initiatives that are not institutionalised and are not administrated by official organisations.

(2) The select-attachment mode is also an early stage of education groups. Due to the disparate reputations and resources of the member schools, the low-performing schools heavily rely on the input of the high-performing schools, such as their resources and teachers, under this mode. As a result, the education group is controlled by high-performing schools.

(3) The alliance-equilibrium mode has fostered a long-term collaborative relationship between member schools, despite the absence of a specific organisation to respond to the education group's development.

(4) The alliance-attachment mode is primarily concerned with improving the teaching quality in low-performing schools within the education group. To gain the support of high-performing schools, low-performing schools may provide high-performing schools with certain benefits.

(5) The federate-equilibrium mode, in which an organisational structure, such as the principals' committee, is built to adapt to the educational group's progress. Each member school, however, retains authority over human and financial resources.

(6) The federate attachment mode is characterised by a dominant school that is responsible for the education group's development and exercises decisive influence over the operations of member schools.

(7) The centralised-equilibrium mode, represents the education group's advanced stage. The education group is in charge of all matters, including event planning, resources allocation, and teacher hiring. Each member school is an integral and equal part of the education group.

(8) The centralised attachment mode represents the education group’s advanced stage. A new organisation, led by a representative from the dominant school, has been formed to respond to all educational events. As a result, the principal of the dominant school effectively controls the majority of events and decisions.

The research on the organisational structure of school-to-school collaboration (education groups) emphasises the interaction between member schools and the governing structure and regulations while ignoring the influence of social and political settings. As S. Zhang (2015) stated, the local educational bureau plays a significant role, but little research has been undertaken on how policies influence or shape the formation of the education group. As a result, this study takes the social and political context as a vital component and incorporates it into the factors pertaining to the education group to examine the education group's governing structure.

2.3.3 Strategies for implementing school-to-school collaboration

Numerous studies have been conducted to examine the ways of adopting school-to-school collaboration in a range of contexts (Billett, Clemans, & Seddon, 2005; Donnelly & Gallagher, 2008; Woods et al., 2006). For example, Woods et al. (2006) identified

several aspects that could contribute to the growth of school-to-school collaboration, including school capacities, school infrastructure, and external support. Additionally, Billett et al. (2005) proposed five elements for sustaining collaborations: generating shared goals, developing relationships with partners, strengthening collaborative work capacities, connecting collaborative governance and leadership, and establishing trust and trustworthiness.

To foster collaboration between Catholic and Protestant schools in Northern Ireland, Donnelly and Gallagher (2008) identified a number of factors that contribute to successful school collaborations. For example, major disparities in school culture, leadership, and schedule; school distance and transportation costs; financial resources; and school and student capacities. Additionally, Borooah and Knox (2013) asserted that principals must provide teachers with both educational and political leadership support. Furthermore, parents are required to engage in the shared education program (Borooah & Knox, 2013).

Similarly, Muijs (2015a) identified three primary strategies for implementing school federations: leadership development (mentoring new leaders, refreshing leadership structure, and providing emotional support), a teaching and learning-centred approach (coaching, collaborative lesson planning, and class observation), and quick wins (reconstructing morale in the supported school, developing momentum). P. Armstrong and Ainscow (2018) found many important principles for maximising the efficiency of interschool collaboration. They discovered that partners must see clear and flexible benefits from collaboration, and understand that trust between schools is necessary, that close ties between collaborating actors can be beneficial, and that leaders must maintain connections across schools (P. Armstrong & Ainscow, 2018). More precisely, teachers viewed local government support for autonomy as the most critical factor promoting

teachers' engagement in cooperation (Sartory, Jungermann, & Jarvinen, 2017).

S. Zhang (2015) offered a two-tier strategy for implementing the education group in the Chinese context. On the one hand, there were four constituents in the education group: schools, parents, the local educational bureau, and the teaching researchers (S. Zhang, 2015). Each of these actors should engage in accordance with the expectations set forth in the education group (S. Zhang, 2015). For instance, the local educational bureau should provide the education group's external legitimacy, which involves ensuring that member schools, parents, and professional organisations acknowledge and accept the education group's relevance and rationale (S. Zhang, 2015). On the other hand, professional organisations, such as university-based educational researchers, should provide professional assistance in the growth of the education group (S. Zhang, 2015). Parents should be actively involved in the development of the education group (S. Zhang, 2015). Furthermore, three tactics are geared toward the education group as a whole (S. Zhang, 2015). The first strategy is to unify the education group's governance standards, followed by the development of a culture of "harmony with variety" and finally, generating a shared understanding of the education group's ideals (S. Zhang, 2015).

Furthermore, Duan (2018b) investigated the operating mechanism of elite school collaborations, consisting of high- and low-performing schools, which are comparable to the performing federation in England. He distinguished three implicit mechanisms: practical, scale benefit, and symbiotic. Additionally, An (2020) underlined the necessity of harmonising governance standards and expanded on strategies for enhancing collaboration by presenting a plan for developing internal legitimacy within the education group, which might constitute a collaborative force to advance the group's development. However, X. Y. Yang and Yang (2020) claimed that the key to an education group’s

development is the establishment of a shared value and culture. More precisely, Fu (2018) analysed the development experiences of the education group in Guangdong Province, highlighting the critical nature of attitudes towards the education group. Fu (2018) described five successful implementation strategies in Guangdong: cultivating a sharing culture, focusing on teacher professional development, sharing teaching materials, developing group teaching activities, and launching curricular experiments.

Many studies have identified numerous ways for enhancing the development of the education group, but two aspects of merit require further consideration. The first point of contention is the links between these strategies, as current research just lists them without evaluating their close relationships. The second is how these strategies should be regarded theoretically. That is, how to understand these techniques in light of the theory or how to construct new theories on their basis. My study attempts to bridge these two gaps.

2.3.4 Challenges to the implementation of school-to-school collaboration

The difficulties inherent in initiating school-to-school collaboration have also been extensively addressed in the research literature. For instance, Muijs (2015b) claimed that teacher dissent and disagreement, as well as the potential development crisis linked with dependency on supporting schools, are key barriers to the formation of school federations. Moreover, high-performing schools face a huge problem in balancing the obligation to assist low-performing schools while avoiding an increase in staff effort. Meanwhile, the principal of a high-performing school must have a complete awareness of both the school's strengths and weaknesses (Muijs, 2015b). The principal should be aware of their options for assisting struggling schools (Muijs, 2015b).

Similarly, P. Armstrong and Ainscow (2018) characterised schools as being

perplexed by divergent educational policy initiative orientations, unclear roles and duties of schools, local authority demands for increased regional collaboration, and local power conflicts. Additionally, Jopling (2019) examined how neoliberal policy inhibits school-to-school collaboration in the United Kingdom and discovered that the inhibitions occurred on two fronts: first, neoliberalism's market orientation cannot meet parents' educational expectations, as parents try to compensate through school choice; and second, neoliberalism's neoconservative traditions devalue vocational education, further eroding vocational schools' reputations. The biggest hurdles to school collaborations in the shared education initiative were the timetables of the schools and their significant distances from one another. These factors all contributed to students' increased time spent on transportation (Duffy & Gallagher, 2014).

In the Chinese context, J. Liu (2018) identified several impediments to school collaborations, including divergent educational agendas, school structures, principals' varying leadership and management styles, a lack of an incentivising environment, and parental opposition. Additionally, Liu stated that future research should focus on discovering similarities and differences between various models of education groups, with an emphasis on determining how power relationships act as catalysts or inhibitors of an education group (J. Liu, 2018).

Similarly, J. Zhang and Cheng (2018b) made some critical comments about the interaction between schools and the community. For instance, it is difficult for teachers from low-performing schools to comprehend and apply the teaching ideology and practices of high-performing schools because of the distinct differences in teaching styles and culture among these schools (J. Zhang & Cheng, 2018b). Meanwhile, if resources from high-performing schools are focused primarily on low-performing schools,

collaborative linkage becomes difficult to maintain (J. Zhang & Cheng, 2018b).

2.4 Stakeholders and school-to-school collaboration

2.4.1 The influences of school-to-school collaboration on students

The effect of school-to-school collaboration on student outcomes continues to be a point of contention in the literature. Woods et al. (2006) examined the impact of the "Diversity Pathfinder Project" (DPP), which the UK government funds to encourage secondary schools to collaborate, and discovered no discernible change in students' curriculum preferences or attitudes towards collaboration with students from other schools, as well as no apparent increase in students' school engagement. Sammons, Mujtaba, Eal, and Gu (2007) examined the effects of the "Network Learning Community" (NLC) program supported by the National College for School Leadership in the UK on students' achievement and perceptions. By comparing the national evaluation results of schools that participated in the NLC to the average national results, they discovered that there is no evidence that the NLC boosted or decreased primary school students' attainment. The study discovered that the NLC program improved students' English achievement in secondary schools, but not their math or science achievement, (Sammons et al., 2007). Meanwhile, they argued that the NLC program is more likely to benefit students' motivation and involvement in school while having a minor influence on academic achievement and behaviour (Sammons et al., 2007).

By contrast, multiple studies (Chapman & Muijs, 2013, 2014; Chapman, Muijs, Sammons, Armstrong, & Collins, 2009; Katz & Earl, 2010) have established that school-to-school collaboration benefits students outcomes. Chapman and colleagues assessed the influence of school-level factors on student outcomes using a multilevel model to

compare federated and non-federated schools. They discovered that school federations have a positive effect on student outcomes, with the most significant effect on the performance federation, which refers to the collaboration between high- and low-performing schools (Chapman et al., 2009). Furthermore, Chapman and Muijs (2013, 2014) verified the beneficial effect of school federations on student outcomes through a series of research studies. They also reported that, when compared to school collaborations, a school federation had a greater influence on student outcomes. Additionally, the power of the federation is magnified if it has an executive director. Finally, Muijs (2015b) conducted a quasi-experimental study on the performance of school federations at the primary level, examining their effects on student achievement and other influencing factors. He discovered that student outcomes improved more in low-performing schools than in high-performing schools, showing that the federation has a greater impact on low-performing schools than on high-performing schools (Muijs, 2015b).

Moreover, J. Hughes, Campbell, Lolliot, Hewstone, and Gallagher (2013) revealed that school-to-school collaboration can boost student contact, particularly between students of different religious or cultural backgrounds. These interactions may then help children in developing more positive attitudes toward their classmates. J. Hughes and Loader (2015) identified that students participating in a shared education program can strengthen their cross-group connections and lower intergroup fear, hence enhancing students' prosocial behaviour and reducing outgroup attitudes. However, Loader and Hughes (2017a) argued that it is difficult for students to build strong connections during joint education activities due to inhibitory factors, such as large class sizes, teachers' didactic teaching styles, and unsympathetic classroom design.

J. Liu (2018) used a qualitative research design to examine the influence of education groups in the Chinese context. Constructivist and social capital theories underpinned this study, which demonstrates how school-to-school collaboration can result in a more engaging curriculum for students (J. Liu, 2018). However, because this study was qualitative, it is impossible to assess the extent to which school-to-school collaboration affects students' performance on a wider scale.

Another study reveals that students' mutual ties benefit academic outcomes, showing that students' sense of school belonging and their experiences with cross-school contacts mitigate this effect in the school-to-school collaboration setting (Y. Wang, 2019). However, because this study appears to view school-to-school collaboration as the research environment, it is difficult to determine whether or not school-to-school collaboration has a direct effect on student results.

To address the aforementioned challenge, Ding (2019) used baseline data from the China Education Panel Survey (CEPS) and a regression model to examine the effect of education groups on students' academic outcomes. He concluded that education groups have a beneficial effect on students' academic scores in mathematics, Chinese, and English. However, the study does not account for any confounding factors affecting students' outcomes (Ding, 2019). In addition, the multivariate regression model is incapable of resolving the issue of sample bias and the difficulty of achieving a random result when it comes to education groups and student outcomes.

G. B. Fang, P. W. K. Chan, and P. Kalogeropoulos (2021b) enhanced the research design of Ding (2019) by using propensity score matching and extending the scope to assess the influence of education groups on students' cognitive development. They discovered that while education groups do affect students' cognitive skills, the effect differs according to the socioeconomic status of student households. Similarly, W. P.

Zhang and Cheng (2019) demonstrated that education groups can help students in enhancing their overall qualities. Wu et al. (2021) also confirmed the positive associations between school-to-school collaboration and students' math and reading achievements when the school and district indices were used as control variables.

2.4.2 The influences of school-to-school collaboration on teachers

School-to-school collaborations have been found to benefit teachers' growth. McMeeking, Davies, and Rudd (2002), for example, reported that teachers participating in the early school collaboration program in the UK, namely the "Beacon Schools Program" (BSP), expressed a greater willingness to try new things and share ideas with colleagues, as well as increased confidence and self-reflection abilities. Another study asserted that collaboration between schools boosts teachers' desire to share knowledge and increases opportunities for mutual learning (J. Turner, 2004). Similarly, Ainscow, Muijs, and West (2006) discovered that school-to-school collaboration can supply teachers with an abundance of curriculum resources. J. Liu (2018) remarked that once a school joins the collaboration, it may lead to additional resources and opportunities for its teachers; for example, the expert teachers from the high-performing schools may share teaching experiences and strategies with teachers from low-performing schools.

In the research on school federations, Chapman et al. (2009) state that school federations provide additional opportunities for teachers to continue their professional development by sharing resources and participating in joint professional development activities. Varga-Atkins, O'Brien, Burton, Campbell, and Qualter (2010) indicated that collaborative professional development activities are crucial for promoting teachers' development within school networks. Stoll (2015) researched the effect of teaching school alliances on teacher development and discovered that teachers can benefit from

alliances by raising students' expectations and increasing their teaching motivations as well as enhancing their receptiveness towards their colleagues.

Duffy and Gallagher (2014) underlined shared education's cultural and institutional benefits in Northern Ireland. They expected that students who took a shared course could alleviate their anxiety about cultural and religious differences (Duffy & Gallagher, 2014). Additionally, the shared education program provides six institutional benefits: (1) strengthening inter-school relationships; (2) fostering a cooperative climate among schools, particularly during competitions; (3) strengthening the curriculum; (4) collaborating among schools as a goal; (5) connecting schools at various stages; and, (6) learning from one another (Duffy & Gallagher, 2014).

There is controversy concerning the effect of teacher mobility within education groups. K. Z. Li and Gao (2021) presented three methods of teacher resource sharing in education groups: teacher exchange, lesson preparation, and teamwork. They contended that the education group may be an effective strategy for allocating teachers in a balanced approach among the group's member schools. However, D. H. Li and Yao (2019) criticised the education group for having no discernible effect on the allocation of expert teachers. Similarly, Du (2021) validated the findings of D. H. Li and Yao (2019), stating that education groups have no obvious effect on closing the numerical gap in expert teachers between member schools. Meanwhile, Du (2021) further disclosed that the *Nine-Year Compulsory System*[6] is the most successful strategy for mobilising teacher resources

[6] The Nine-Year Compulsory System refers to the integrated school comprising both primary and junior middle schools. When students graduated from the primary school, they can engage in junior middle education in the same school.

in the education group. Although these two studies employed a quantitative design and analysed data using causal inference approaches, their conclusions must be examined seriously in terms of evaluations of teachers' quality was measured in the studies. For instance, expert teachers may be defined by their educational background and title, neither of which is influenced directly by the education group.

Moreover, H. Wang (2017) claimed that the motivation for teachers' mobility within the education group should shift from task-oriented to value-oriented. That is to say, enabling teachers to build an agreed value of the entire education group may facilitate movement among member schools.

According to the preceding reviews, education groups can have a multitude of beneficial consequences for students and teachers. The benefits of teacher development appear to have been disregarded in favour of focussing on the implementation of education groups. Meanwhile, given the proximity of teachers and students, it is worthwhile to investigate how positively teachers influence students.

2.5 Summary and commentary

This chapter summarises key findings from research on school-to-school collaboration (education groups), including definitions, motivations, structure, tactics, effects on students and teachers, and potential problems. These studies bolster my project in two ways: (1) they provide insightful conclusions that will guide my work; and (2) they identify certain potential gaps that should be addressed through more research.

To conclude, the following concerns are not adequately addressed in the current literature and will be further explored in this study.

(1) Existing research on organisational structure downplays the role of social, political, and cultural settings. That is, the governing structure must consider both internal and external possible factors.

(2) In terms of the strategies for carrying out collaboration through education groups, it is vital to understand the interrelationships between these strategies in order to fully appreciate the education group's implementation. Additionally, it is critical to explore the theoretical implications of these tactics so as to advance the field of school-to-school collaboration theory.

(3) There is no one-way interaction between teachers and education groups, implying that teachers' development may benefit the development of the education group. This aspect, however, has been overlooked. Meanwhile, the education group appears to have no discernible effect on either pupils or teachers. As a result, future research should examine how teachers' growth and changes have impacted students' learning and growth in the implementation of the education group.

The theoretical foundation is crucial to research, thus the following chapter, Chapter 3, is primarily concerned with the theoretical underpinning of school-to-school collaboration.

CHAPTER THREE
Theorising school-to-school collaboration

3.1 Introduction

Based on the literature review on the research of school-to-school collaboration and the research on education groups in Chapter Two, this chapter further elaborates on the theoretical framework of school-to-school collaboration (education groups). Given the shortcomings of hierarchical governance, which include government inefficiency and high operational costs, and market governance, which fails to prevent price instability and social injustice, network governance is gaining appeal among political scientists. Educational experts have recognised this substantial shift in perspectives on governance, as the primary objective of public school reform is to address the relationships that have existed between governments, markets, and schools (Lao, 2009).

China, in comparison to western countries, has a relatively short history of establishing a public school system, but it faces the same challenges of needing to modernise the educational system while maintaining its quality and efficiency (Lao, 2009). As with western countries, the Chinese government has taken a similar approach to resolve this issue with the decentralisation of education governance by granting greater autonomy to schools. For instance, primary and secondary schools are funded by local governments. Nevertheless, there are substantial financial gaps between schools. Thus, primary and secondary schools are authorised to solicit additional educational funding from individuals and groups. This approach generates significant disparities between developed and developing areas, as well as within the same district. That is, disparities

between schools have been significant due to disparate funding in these institutions. As a result, educational inequality has developed into a serious problem that requires immediate attention.

In examining the developing trajectory of the Chinese public school system, series research acknowledged that Chinese public schools are not modern enterprises capable of perfectly meeting and responding to market standards (Lao, 2010, 2011, 2015). After conducting extensive research in political and public administration studies, researchers recommended that a network of public, semi-public, and private actors be utilised to transform public schools (X. W. Yang, 2014; You, 2020). This led to schools in mainland China cooperating with each other, much like mushrooms after a monsoon.

In order to lay the foundation for understanding school collaboration, this chapter is organised as follows: Section 3.2 covers the theoretical underpinnings of collaborative school-to-school collaboration. It summarises numerous significant studies that investigated the underlying structure of school-to-school collaboration, highlighting some of its commonalities and arguments. The notion of organisational neo-institutionalism is discussed at length in Section 3.3. It focuses on two strands of organisational neo-institutionalism theory: institutional legitimacy and institutional mechanisms. Additionally, it explores the application of this theory in educational research. The theory of network governance is summarised in Section 3.4 by outlining its beginnings and development in China, as well as its applications in educational research. Section 3.5 summarises the study's theoretical foundation in light of the prior three sections. It presents the integrated theoretical framework's rationality and structure. Section 3.6 highlights the major points and concludes the chapter.

3.2 Theoretical dilemmas in the school-to-school collaboration research

This study reviewed the theories that have been applied in the school-to-school collaboration research by evaluating theoretical or conceptual publications and other related articles that have clearly discussed the theories and which were published in English (see Table 3-1). From the 13 studies reviewed, twelve theories have been advanced to guide school-to-school collaboration study.

Table 3- 1 The theories in school-to-school collaboration research in English

Year	Author(s)	Theory	Key points
2003	Wohlstetter, et al.	High-involvement model	Decentralise and restructure four organisational resources: power, rewards, information, and knowledge and skills.
2005	Hite, et al.	Network theory	The network content and structure influence the relationships among organisations. There are multiple networks in the SSC.
2005	Liberman and Grolnick	Network theory	A sense of being an alternative to established systems. Shared purpose, psychological support, an effective facilitator, voluntary participation and equal treatment.
2006	Lumby and Morrison	Intergroup conflict theory	How far there is a competition for a resource, how far ingroup favourable and outgroup unfavourable bias remains, despite adopting a partnership, and how far superordinate goals have been established and their impact on the degree of competition.
		Gaming theory	
2006	Chapman and Allen	Developing a new theory	Presenting some new propositions: engagement, locus of control and sustainability, external support, internal capacity, and lead collaborators.
2006	Connolly and James	Resource dependency theory	Resource exchange
		Institutional theory	The legal, cultural, sectoral and regional environmental conditions and their influences on constructing legitimacy.
2008	Chapman	Developing a new framework	Analysis of context, agreeing purposes, making use of available expertise, and taking action

2010	Chapman and Hadfield	Developing a new framework	Constitution, relationships, and purpose and identity constructs.
2010	Muijs, et al.	Constructivism organisational theory	Goals, activities, density, spread, and power relations
		Social capital theory	
		Durkheimian network theory	
		New Social Movements	
2010	Lima	Developing a new framework	Genesis, composition, structure, density, centralisation, connectedness, substance, effectiveness, and dynamics
2011	Hadfield and Jopling	Network theory	Functional, structural and interactional constructs.
2014	Muijs and Rumyantseva	Coopetition theory	A relationship between organisations involving competition in some segments and cooperation in others.
2021	Liu	Constructivism organisational theory	Goals, activities, density, spread, and power relations

Wohlstetter, Malloy, Chau, and Polhemus (2003) used the high-involvement model to explain how school-to-school collaboration can improve teachers' classroom instruction and students' academic achievement in the early stages of SSC research. This model emphasises the importance of stakeholders participating actively in the collaborative process and decentralising network resources to participating organisations and individuals. A new operating structure is required to decentralise four distinct types of resources: power, rewards, information, and knowledge. Thus, the high-involvement model places a premium on two factors: governance restructuring and resources decentralisation.

While network theory is widely used in research on school-to-school collaboration, its application varies considerably across studies. For example, Hite, Williams, and

Baugh (2005) emphasised the network's content and structure through the lens of school administrators, based on sociological and organisational research. The term "network content" refers to the assets (financial and physical resources), knowledge, information, guidance, legitimacy, reputation, authority, support, encouragement, and friendship, that are transferred or flowing throughout the network (Hite et al., 2005). The network structure is comprised of the numerous relationships that exist between the network's participants and can be characterised on both egocentrically and network-wide bases (Hite et al., 2005). According to Lieberman and Grolnick (2005), educational networks share five characteristics: (1) a sense of being distinct from established systems; (2) a shared purpose; (3) some combination of sharing and psychological support; (4) an effective facilitator, and (5) an emphasis on voluntary participation and equal treatment (p. 42). Hadfield and Jopling (2011) discussed three major approaches to understanding professional development and collaborative reform in educational networks through the lens of network theory. The first is a structural-instrumentalist perspective, emphasising the ways in which individuals benefit from networks to advance their growth (Hadfield & Jopling, 2011). The second is the structural-constructivist perspective, viewing network members as critical (Hadfield & Jopling, 2011). Finally, there is structural pluralism, which emphasises the multiplexity of networks rather than a single type of network and places a focus on the connections between various types of networks rather than their interactions (Hadfield & Jopling, 2011). Moreover, SSC research included additional theories such as intergroup conflict and gaming theory (Lumby & Morrison, 2006), resource dependency theory (Connolly & James, 2006), and "coopetition theory" (Muijs & Rumyantseva, 2014). Coopetition theory refers to the coined hybrid word, "*co-opetition"* which (M. Xia, 2008, p. 16) characterises as a combination of cooperation and competition.

Chapman and colleagues conducted a series of studies in order to elucidate the theoretical foundations of school-to-school collaboration. For example, Chapman and Allen (2006) proposed a variety of strategies for expanding school-to-school collaboration, focusing on engagement, locus of control and sustainability, external assistance, internal capacity, and lead collaborators. Additionally, Chapman (2008) presented a model, which was is comprised of four interconnected aspects (see Figure 3-1). This model began with an examination of the setting, taking into account several critical contextual factors. Then, in order to accomplish an agreed-upon objective, the collaboration's priorities must be established. The primary goal of the second step is to develop the institutional boundaries between schools and foster trust between them. The third phase is utilising available expertise, which includes defining the scope of competence for school-to-school collaboration and determining how to communicate the beneficial effects of this expertise, such as teacher collaboration, information and knowledge exchange. The final step is action, which involves executing specific improvement plans.

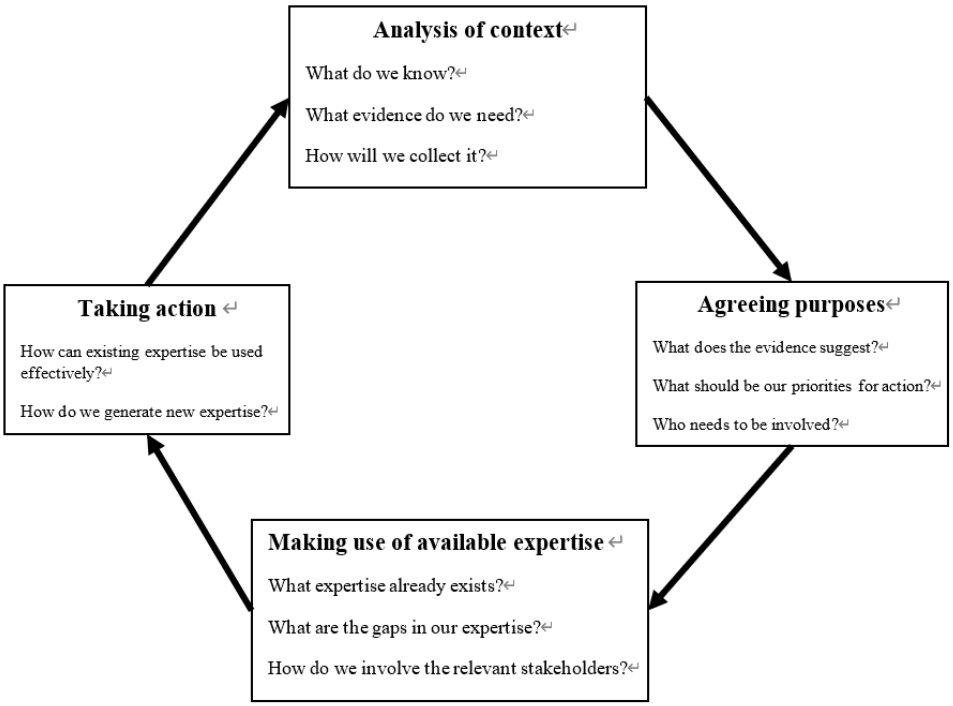

Figure 3- 1 Action inquiry-based model of school-to-school collaboration

Source: modified from (Chapman, 2008, p. 416)

In addition, Chapman and Hadfield (2010) proposed that all networks (collaborations) should be organised around four common characteristics: structures, interactions (processes), agency, and purposes. In the context of the SSC, structures refer to the interactions that occur within and between schools. In comparison to interactions within social networks, such as knowledge exchange and certain cooperative professional activities, SSC interactions are more concerned with professional outcomes than with social ones. The term "networked agency" refers to "the balance between the degree to which its members demonstrate collective and individual agency" (Chapman & Hadfield, 2010, p. 312). Schools and teachers within the SSC are required to commit to collaborative actions aimed at achieving professional goals by the networked agency. The term "purpose" refers to the fact that schools that collaborate (networks) have a common

goal or a set of goals. Apart from that, Chapman and Hadfield (2010) have provided us with three additional critical dimensions when considering the theoretical foundations of school networks: (1) composition, the mix and balance of participants in the SSC; (2) relationships, how people interact; and (3) purpose and identity, the network's goals and identity created by participants (Chapman & Hadfield, 2010).

Muijs, West, and Ainscow (2010) summarised four SSC theories from sociological, psychological, and business perspectives. These theories include constructivist organisational theory, social capital theory, Durkheimian network theory, and new social movements theory. Following that, these theories were explained through the lens of goals and activities. For example, the constructivist organisational theory is used to guide some empirical studies on the formation of education groups in China (J. Liu, 2018, 2021) and their effects on students' cognitive development (G. B. Fang et al., 2021b). However, Muijs et al. (2010) criticised these four theories for providing insufficient explanations and expanded the SSC framework by adding seven new dimensions, including voluntarism or coercion, power relations, network density, external involvement, and multiple time frames, geographical spread, and school density. As a result, a complete SSC model has eight dimensions listed below (Muijs et al., 2010, pp. 13-14):

(1) The term "goals and activities" refers to the SSC's objectives and the activities conducted inside the SSC.
(2) Voluntarism or coercion refers to how schools collaborate freely or under coercion.
(3) Power relations refer to the extent to which the connections between the collaboration's schools are based on equality or domination by one or more of the schools.

(4) The term “network density” refers to the number of schools and individuals active in the SSC process.

(5) External involvement refers to the level of involvement of external organisations or partners in the SSC.

(6) Different time frames refer to the time frames that schools or individuals view the SSC’s duration, such as short, medium, and long term.

(7) Geographic dispersion refers to the extent to which schools within the SSC are geographically dispersed.

(8) School density refers to the number of schools participating in the SSC.

Lima (2010) offered nine important dimensions for assessing the SSC, including genesis, composition, structure, density, centralisation, connection, substance, effectiveness, and dynamics, in response to criticisms of the normative and instrumental approach used in SSC research (Lima, 2010, pp. 4-10).

(1) Genesis refers to the rationale and motivation for establishing school-to-school collaboration, as well as the factors that attract participants.

(2) Composition refers to the SSC classification system, which includes both individual-actor and collective-actor SSCs; the former includes individuals, while the latter includes organisations or institutions.

(3) The structure is classified into two fundamental categories: the whole-system structure and the structure of individual elements.

(4) Density refers to the level at which all theoretically potential relationships between actors are engaged inside it.

(5) Centralization is a term that refers to the degree to which an organization’s relationships and communication patterns are dominated by one or a few extremely powerful actors or subgroups.

(6) Connectedness refers to the overall cohesiveness of a collaboration.

(7) Substance refers to the topics on which SSC members interact, such as missions, purposes, values, social norms, conceptions, and viewpoints.

(8) Effectiveness involves evaluating the SSC's outcomes or effects on its members, which entails primarily attempting to address the following question: how do we know a given network is making a difference?

(9) Dynamics refer to the process by which SCC evolves or develops. It is concerned with the following question: Does the SSC change over time? If this is true, how does it happen?

By comparing the three frameworks previously mentioned, three implications emerge to drive this investigation. To begin with, the three frameworks agreed on the key dimensions of SSC, albeit in slightly different terms. More precisely, the three frameworks referred to the four critical elements of purpose, constitution (composition), structure (density), and relationships (interaction). Second, Chapman (2008) emphasised that the SSC analysis focuses on six levels, including pupil, teacher, leadership, school as a professional learning community, school-to-school, and, within this endeavour, network to network, whereas the three frameworks omitted these levels. The three frameworks incorporate dimensions at the organisational and individual levels. On an organisational level, for example, the dimensions of composition (constitution), structure, network density, and schools have been highlighted; On a personal level, the three frameworks mentioned the dimensions of objectives and identity, agency, and relationships. As a result, whenever we attempt to expand the theoretical framework of SSC, we must pay close attention to the unit of level. Third, the framework simply lists these critical dimensions without indicating how they relate to one another. Individuals are practically entwined in the SSC, and all dimensions are inextricably linked. Thus, when proposing a

new structure for the SSC, a holistic approach should be taken.

L. Zhang (2019) presented a three-tiered analysis framework for examining how the education group's leadership structure influences school decision-making based on three theories, namely the neo-institutionalism theory, social network theory, and governance theory. On a macro level, the objective is to determine whether the reform of the Chinese public school system has a positive or negative impact on the development of the educational groups. At the meso-level, the objective is to elucidate how the organisational structure and implementation mechanisms work within the organisational field. At the micro-level, the focus is on the impact of organisational structure and procedures on specific decision-making. L. Zhang (2019) identified three distinct governing models: the federation model, the single-committee model, and the metrical-structure model, and examined the influencing channels and supports for these models on the decision-making of school leaders.

The research conducted by L. Zhang (2019) have three implications for my research. Firstly, no single theory could adequately describe the education group phenomenon, owing to its complex three-tier structure. This structure may imply the need for a combined theoretical framework to investigate the evolution of education groups. Furthermore, whether we view the education group as a bottom-up strategy aimed at school development or as an educational policy aimed at educational system transformation, its emergence is inextricably linked to the educational policies of the central and local governments. Thus, if we wish to address the question of how and why the education group was formed, which is referred to in the former framework as the dimension of dynamics of the SSC (Lima, 2010), it is necessary to situate the formation of the education group within the context of the local education policy and cultural

background. Secondly, it appears as though the governing structure of the network plays an essential role in determining the educational group's impact. Because the network's governance structure cannot directly influence the education group's participants, additional research on influencing tactics, channels, or platforms should be conducted. Thirdly, since participants within schools, such as principals, teachers, pupils, and parents are inextricably linked with each other and with outcomes, a new approach is required to address the questions of how these participants interact with one another (dimension of interaction and relationships) and how the education group's effectiveness affects the participants (dimension of effectiveness).

Based on the findings of L. Zhang (2019), this study combined organisational neo-institutionalism and network governance theories to create my theoretical framework, and I now discuss organisational neo-institutionalism theory in greater detail and explain its role and function within my framework (the final framework is presented in Section 3.6).

3.3 The organisational neo-institutionalism theory

Although the organisational neo-institutionalism theory is mainly utilised in the organisational sociology, it has strong capacity for interpreting educational issues. This section firstly introduces the traditions and development of the organisational neo-institutionalism theory, and continues with focusing on one of the main issues: organisational legitimacy and its implementing mechanisms. After that, this study discusses the strengths and shortcomings of this theory by reviewing its adaptation in educational research.

3.3.1 Traditions and development of organisational neo-institutionalism theory

Two strands of academic research laid the groundwork for organisational neo-

institutionalism theory: the study of how rational organisations operate in real-world contexts (Selznick, 1949) and the emergence of contingency theory (X. G. Zhou, 2017). On the one hand, Selznick (1949) demonstrated that an organisation is influenced by its external environment, rather than being a closed system. Thus, this work implied that organisational evolution is a natural process that occurs as a result of an organisation's interaction, rather than as a result of human design. Selznick (1984) further stated that institutionalisation is a process by which values and perceptions pervade an organisation's internal operations beyond the requirements of specific tasks and procedures. On the other hand, beginning in the 1960s, researchers began investigating possible connections between an organisation's structure and its external environment, procedures, and goals, based on the premise that organisations are not rationally formed. The contingency theory provides a comprehensive account of the ways an organization's structure is related to and changes in response to its external environment, procedures, and goals.

At the end of the 1970s, the organisational neo-institutionalism theory was established on the basis of the two preceding schools of study (Z. Cao, 2005). J. W. Meyer and Rowan (1977) released a seminal study in 1977 that laid the groundwork for the concept of organisational neo-institutionalism. They attempted to explain in this work why many organisations share similar structures and institutions, which was a novel question in organisational science. For example, in the American educational system, the federal government has no direct control over each state's education, despite the fact that each state's educational system and structure are nearly identical. DiMaggio and Powell (1983) coined the term "organisational isomorphism" to describe this fascinating phenomenon. J. W. Meyer and Rowan (1977) demonstrated the influence of external technical and institutional environments on organisational isomorphism.

The term “technical environment” refers to the external resources and markets that influence the performance of an organisation. Technically speaking, the ultimate goal of organisations is to maximise the efficiency of their input and output of organisational resources, as organisations are presumptively rational (X. G. Zhou, 2017). Thus, the fundamental process of organisational development is the pursuit of maximum efficiency in terms of the technical environment.

Additionally, the institutional environment encompasses the social laws and policies, cultural beliefs, and social norms that shape the organisations’ existence, most notably the part that individuals and organisations take for granted (R. W. Scott, 2001). Institutionalisation is the process by which organisations or individuals within them actively and continuously adopt recognised forms, social norms, or social ideals in order to achieve organisational legitimacy. Thus, from the institutional perspective, the pursuit of legitimacy is the primary mechanism of organisational development.

To summarise, companies would be confronted with contradictory requirements based on their technical and institutional environment. For instance, organisations may adhere to widely accepted societal norms or practice in order to gain legitimacy, regardless of the consequences, such as increased or decreased organisational efficiency. As a result, the concept of organisational legitimacy provides us with a powerful analytical and comprehensive tool for a variety of novel organisational phenomena.

3.3.2 Legitimacy and mechanisms within organisations

Legitimacy refers to the influence of the legal system, cultural system, individual value system, and social standards on the behaviours and structure of organisations (X. G. Zhou, 2017). The legitimacy mechanism is comprised of the legal system, cultural

system, and individual value system, while social norms become generally acknowledged social facts, exerting significant limitations and impact on the behaviours of individuals and organisations (X. G. Zhou, 2017). For example, it is widely accepted that teachers are not permitted to physically discipline children, which places significant constraints on teachers' behaviour.

Furthermore, the legitimacy mechanism is classified as either strong or weak legitimacy (X. G. Zhou, 2017). The strong legitimacy mechanism refers to the widespread social institutions that shape organisational behaviours and forms, forcing individuals and organisations to accept them. The social common institutions manifest themselves as natural rather than human-created rules, and a phenomenon dubbed rational myth (J. W. Meyer & Rowan, 1977). For instance, a university or college, in our thoughts, must have a president and several departments or schools (faculties). This university organisation has become ingrained in the culture. A university cannot exist without a president and a school or department. Douglas (1986) elaborates on the influence of the strong legitimacy mechanism on people's thinking by proposing the three following distinct ways.

To begin, social common institutions endow individuals with a distinct identity and institutionalise their categorisation (Douglas, 1986). Individuals then develop a pattern of thinking and acting consistently with their naturalised identities. For instance, if we regard ourselves as researchers in a world-class university, social expectations will constrain our research ideas and practices.

Second, social common institutions shape individual thinking and behaviour by forming social groups' memories (Douglas, 1986). More precisely, memory-store information and norms shape people's thinking and behaviour, while social common institutions shape this memory. For instance, businesses frequently use advertising to

promote a particular perception of their products. This advertising method, however, would leave consumers with only a partial understanding of their products.

Thirdly, social common institutions establish classification criteria (Douglas, 1986). For instance, in Chinese culture, the Chinese are divided into southerners and northerners. Chinese categorisation into two groups is a form of institution that fosters prejudice in a particular group of people.

From the perspective of the weak legitimacy mechanism, social common institutions, regardless of their effect, are insufficiently strong to formulate or dictate people's thoughts and acts. According to the mechanism of weak legitimacy, institutions require assistance from an intermediary, such as personal incentives or resource allocation, in order to influence people's thinking and behaviour. DiMaggio and Powell (1983) suggested three distinct perspectives on how individual thought and behaviour may be impacted:

To begin, let us consider a coercive method. That is, when a majority of the organisation accepts a particular organisational structure, set of rules, regulations, or practices, other organisations in the same field are compelled to do the same. Otherwise, the one choosing different aspects may be discriminated against by the others.

Second, the mimetic approach, which involves organisations modelling their behaviours and practices after those of successful organisations in a similar field. When the external technical environment is extremely ambiguous, organisations cannot confirm the best plan or strategy to mitigate risks of adopting effective strategies used in other environments.

Thirdly, the normative approach is concerned with the atypical yet professional

norms that exist within organisations and have an undeniable impact on the institutional structure. This is a frequently used strategy in institutions that require a high level of professionalism, such as hospitals and colleges.

3.3.3 Applications of organisational neo-institutionalism theory in educational research

Sociologists established the organisational neo-institutionalism theory in the American context of higher education by conducting research at a university (J. W. Meyer & Rowan, 1977). As expected, since its inception, this idea has garnered widespread attention from educational scholars in western countries. Additionally, H. D. Meyer and Rowan (2007) edited a book to examine educational settings, covering a range of topics including school organisation, instructional practice, higher education, and future implications. A Chinese researcher published a review of this work in 2010 (Y. T. Yan, 2010).

The organisational neo-institutionalism theory has gained widespread acceptance as a theoretical framework for educational research in the Chinese context. Several papers examined the importance of organisational neo-institutionalism theory in educational research and how it could be used to analyse early Chinese educational phenomena (J. R. Guo, 2008; H. D. Meyer & Rowan, 2007). Then, in Chinese primary and secondary education, several studies used the theory to examine why it is so difficult to improve schools in China (Ke, 2007; X. M. Wei & Li, 2017), how to reform teaching research groups (Zheng, 2014), why it is difficult to implement the new curriculum reform policies (Ke, 2010, 2011), and the teacher education system (Z. J. Xie, 2016; Q. Zhang, 2012). The organisational neo-institutionalism theory has been primarily used in Chinese higher education research to examine the university's organisational structure (X. G. Zhou, 2010)

or systems, such as the institutionalisation of university science parks (Mo, 2014) and the management system of Chinese university performance (P. Shi & Meng, 2012). Apart from the theoretical discussion, these studies demonstrate that organisational neo-institutionalism would focus on three major themes: educational policy implementation, school structure, and the educational system. They also show that it could provide a strong framework for educational research.

3.4 Network governance theory

Network governance theory has received considerable attention from educational researchers in the recent years. This study firstly introduces the origins of network governance theory and further discusses its two types. After that, this study reviews the previous research to discuss the strengths and shortcomings of using network governance theory to interpret educational phenomena.

3.4.1 Two traditions of network governance

Governance is a multidisciplinary notion with a long history that originated in politics, public administration, and business. It is synonymous with government, which refers to transhistorical and cross-cultural social and political processes (W. K. Chan, 2019). However, network governance is a new idea that comes from two research traditions: policy network research in politics and network research in organisational science.

Initially, the policy network had a clear definition, namely the power ties between governments and interest groups, but before the 1990s, there was considerable disagreement over the policy network's major issues (Klijn, 1996). British researchers adhered to the policy network traditions, emphasising resource exchange and interest

reconciliation among disparate groups that are members of the same policy network (Borezl, 1998). However, the German-Dutch experts viewed the policy network as a potential replacement for the state and market models. After the 1990s, policy network research shifted its focus to governance.

Similarly, Dassen (2010) proposed a three-stage model for policy network research development. In the initial stage, policy network research is classified into three categories. While American researchers focused on the process of policy implementation, British scholars concentrated on the meaning and forms of policy networks (Rhodes, 2016). The final category of research on policy networks was conducted in German and Dutch, where policy networks were viewed as a new form of governance. The second stage involves Dutch researchers abandoning the term "policy network" in favour of "network governance", emphasising their governing traditions (Klijn & Koppenjan, 2000). In the third stage, German scientists introduced social network analysis and favoured a quantitative approach to policy network research to address the problem of insufficient explanation for policy networks (Sørensen & Torfing, 2017; Van Bueren, Klijn, & Koppenjan, 2003).

Rhodes (2017) used network governance to illustrate how a self-organising network is governed, a process that entails trust and mutual benefit. Additionally, he identified four characteristics of this mode of governance. First, organisations and governance are much more inextricably linked than organisations and governments. Second, members in the network are in constant contact as a result of the necessity of transferring resources and negotiating objectives. Third, games between organisations are based on trust and are governed by the mutually agreed upon game rules of network actors. Finally, organisations are autonomous in their operations (Rhodes, 2017).

The term “network” originated in sociological research as a reference to the social network. Initially, it referred to the connections between individuals or events, such as nodes, holes, and loops. In 1969, Travers and Milgram (1969) proposed the “six-degree segmentation theory”, which was later confirmed experimentally and applied to the social network. In the 1990s, social network theory and governance theory were combined and applied to business administration research. Jones, Hesterly, and Borgratti (1997) developed a novel theoretical model of network governance, that included the concept of the transaction cost. Goldsmith and Eggers (2004) pioneered the concept of network governance in a public-private partnership focused on the provision of public services.

As previously stated, both policy network and network governance place a premium on many sectors and their interactions within a network. However, these two theories have markedly different preferences.

To begin, policy network theory is primarily concerned with explaining policy formulation, implementation, and assessment through the lens of sectors and their relationships within a network. The policy network serves as a governance mechanism, negotiating with a diverse range of stakeholders to achieve policy implementation and democratic governance, primarily through negotiation. While governing through network theory is primarily concerned with delivering successful public services, it was seen as an innovative method of doing so. Members of the network come from both the public and private sectors. By fully utilising the resources of each sector, the overall quality of public services can be improved. Thus, network governance is a novel organisational structure that strives to improve the quality of public services by integrating resources from multiple sectors.

Additionally, in terms of value orientation, policy network theory emphasises the

importance of coordinating the interests of all sectors through negotiation and bargaining. As a result, justice and democracy are its primary values. By contrast, network theory is primarily concerned with enhancing the quality of public services through the combination of the strengths of each network participant. As a result, its primary purpose is to maximise efficiency.

Finally, from the perspective of the policy network, governments are merely network participants. The government and the other network participants enjoy the same status. To be more precise, the government is responsible for providing the required financial, technical, and informational support, as well as intervening in the event of a network failure. However, from a network theory perspective, the government is the provider of public services, albeit in a variety of ways and forms, such as entrusting a third-party organisation, assigning resources, and inspecting the operation. As a result, the government continues to exercise hegemonic control over the network.

3.4.2 Network governance research in China

The study of network governance has been widely applied to a variety of Chinese problems, including banking (Z. Chen, Chen, Zhang, & Zhi, 2019), public services (Lu, 2015), and corporations (Braendle, Gasser, & Noll, 2005). However, network governance is based on the concept of "weak government-strong civil society", which is incompatible with China's "strong government-weak civil society" environment. Additionally, the Chinese Communist Party exerts considerable influence over decision-making. Thus, Q. Xie and Chen (2020) proposed evaluating the applicability of network governance in the Chinese context.

M. Xia (2008) proposed the term "Mohe" to replace "network governance" in

Chinese political science to describe how provincial legislatures developed institutional maturity and expanded their influence. "Mohe" was characterised as follows in his work:

> *In Chinese, "Mohe" combines two words: "mo" means "friction" between two objects or conflict between people; "he" means "cooperation" or "congruence". "Mohe" is often interpreted as a "grinding process", which happens in new cars or machines when new parts adjust themselves to accommodate each other and work in harmony. "Co-opetition" (a combination of cooperation and competition) accurately connotes the crucial meanings of "Mohe": It is a process in a time frame. (M. Xia, 2008, p. 16)*

"Mohe" would be a better concept than "network governance" to describe how different sectors work together in China because the power connections between governments and society, as well as the way politics works, are from the top down.

Numerous studies use network governance theory[7] to guide their education research, including polycentric education governance in the United Kingdom (Ball, 2008; Ball & Exley, 2010), curriculum policy (Williamson, 2012), an examination of the European educational system (Grek, Lawn, Ozga, & Segerholm, 2013), educational policy-making in Zimbabwe (Moyo & Modiba, 2013), and teacher training policy in Europe (Olmedo, Bailey, & Ball, 2013).

Han and Ye (2017) examined Chinese educational policy-making via the lens of policy networks and concluded that educational policymaking in China has altered three times over the last three decades. The first change was to de-emphasise the Chinese

[7] Here, I use the broad concept of network governance, including network governance, policy networks, governing by networks, and other similar concepts.

Communist Party as the central government's primary driving force. The second indicated that the value placed on higher education institutions has increased. Finally, researchers and non-governmental organisations are taking a greater role in policy-making (Han & Ye, 2017). Similarly, Forestier, Adamson, Han, and Morris (2016) examined the reference and borrowing of educational policies in Hong Kong from a policy network viewpoint. They discovered that Hong Kong's educational policy borrowing has three characteristics: first, the local educational authorities take a broad view of policy and strive to avoid the shortcomings of other countries; second, the international assessment result is used to determine the new policy's influence while also earning international recognition; and third, local and international academics are invited to participate in the policy borrowing and policy-making processes.

Unlike previous studies that used Western theories to evaluate Chinese practice, W. K. Chan (2019) and W. K. Chan and Seddon (2012) applied the Chinese concept "Mohe" (Xia, 2000) to evaluate the policy implementation process of converting state-owned enterprise schools to government schools.

Recently, two important studies used network governance theory to study school-to-school collaboration in the Chinese environment. The first study examines the governance structure and types of school-to-school collaboration in Beijing (L. Zhang, 2019). Meanwhile, another study examined the role of local education bureaus in putting Shanghai's school-to-school collaboration into action (Tao & Liu, 2020).

3.5 The connections between the organisational neo-institutionalism theory and network governance theory

As previously stated, organisational neo-institutionalism and network governance

theories have been extensively used in educational research, but with the following characteristics: To begin with, the organisational neo-institutionalism theory was primarily used to investigate issues such as the formulation or implementation of a single educational policy or the school governance structure. As a result, it is clear that institutionalism is rarely used to evaluate the individual behaviours of people or organisations. In contrast, network governance theory concentrates on micro-level issues such as the roles of participants, their interactions, and agreements, while ignoring the institutional and technological environments in which organisations operate.

It is critical that the implications of these two theories continue to develop and provide us insights into this new school operating model. Notably, the education group is defined by an imprecise boundary between its member schools. To a certain extent, their teacher resources, teaching equipment, and management guidelines are unclear. The researchers described this organisational shape as a "wicked problem", one that is exceedingly difficult to explain using traditional hierarchy and market governance theories (Klijn & Koppenjan, 2004). Thus, due to the educational group's complexity, a unified theory is required.

Apart from the requirements for research and practice, the recent development of these two theories provides an additional justification for integration. Sørensen and Torfing (2005) classified network governance theories into four categories based on their underlying actions and conceptions of society governance. These include interdependence theories (Jessop, 1995, 1998; Kickert, 1993; Rhodes, 1997), governmentality theory (Dean, 1999; Foucault, 1991; Rose & Miller, 1992), governability theory (Kooiman, 1993; Mayntz, 1993; Scharpf, 1994), and integration theory (DiMaggio & Powell, 1983; March & Olsen, 1995; R. W. Scott, 2001). Among all these theories, the

interdependence and integration theories correlate with my findings better. They explain the meaning of governance network by defining it in five dimensions (Sørensen & Torfing, 2005).

Firstly, the governance network contains a diverse range of stakeholders, public and private, who are interdependent while maintaining operational autonomy. More importantly, stakeholders engage in horizontal rather than vertical interactions.

Secondly, participants in governance networks communicate with one another via negotiations.

Thirdly, negotiations take place within a formalised framework. I quote the entire phrase here because it is critical to my study's demonstration of how organisational neo-institutionalism and network governance theories can coexist:

> *Negotiations do not take place in an institutional vacuum; rather, they proceed within a relatively institutionalized framework, which is more than the sum of its parts, but not a homogenous and completely integrated whole. The institutionalized framework has a regulative aspect in the sense that it provides rules, roles and procedures; a normative aspect in the sense that it conveys norms, values and standards; a cognitive element in the sense that it generates codes, concepts and specialized knowledge; and an imaginary aspect in the sense that it produces identities, ideologies, common hopes and visions. (Sørensen & Torfing, 2005, p. 204)*

Fourthly, network actors are self-regulating, which implies they are not bound by the commands of the hierarchical chain or the rules of the market.

Fifthly, a governance network is driven by public objectives.

Sørensen and Torfing (2005) demonstrated the intricacies of the four network governance theories using these five understandings of governance networks, but this study merely briefly introduces the directly connected ideas. Sørensen and Torfing (2005) further defined governance networks as “an inter-organizational medium for resolving conflicts amongst interdependent but conflicting actors, each of whom has their resource base" (p. 209). After deconstructing this concept of interdependence theory, this study deduces that: (1) actors within the network have interdependent but conflicting relationships; (2) actors interact as a result of resource exchange; and (3) actors have disparate interests and pursuits. Moreover, governance networks are characterised by “integration theory as an institutionalised area of contact between relevant players who are integrated into a community defined by norms and perceptions” (Sørensen & Torfing, 2005, p. 209). In this study, I interpret network governance as a normative way to solve social problems; governance networks are formed by an institutional logic of appropriateness, and the people who work in them build solidarity and shared identities to connect with each other.

Given the setting of the education group in China, it is reasonable to combine the integration and interdependence theories as to the theoretical framework for this study, as each of these two theories alone is incompatible with the reality of Chinese education. For instance, while the member schools of the education group are interconnected, they do not encounter significant conflict. Meanwhile, all member schools share a common objective: eliminating disparities between schools, rather than pursuing solely private goals.

Additionally, two insightful studies used aspects of the two theories to investigate

key themes in school-to-school collaboration research. For example, Connolly and James (2006) used resource dependency theory and an institutional framework to examine school collaboration. Their research was guided by the resource dependency theory, which focuses on resource exchange between schools, whereas the institutional framework focuses on establishing legitimacy for collaboration, which includes professionalism and increasing students' academic achievement. Additionally, they claimed that when analysing school-to-school collaboration, three levels should be considered: the actor level (i.e., teachers and principals), the member school level, and the institutional level. Additionally, L. Zhang (2019) merged the institutional framework and network governance theory to propose a three-level structure to explain the characteristics and processes governing the education group. She concluded by stating that future research should delve deeper into the subject of how and to what extent education group governance affects participants (L. Zhang, 2019).

3.6 Theoretical framework of this study

Considering the aforementioned theoretical research gaps and the complexity of the education group, this study has developed a new theoretical framework by merging organisational neo-institutionalism and network governance theories. More precisely, I want to emphasise the combined influence of several institutions on the external environment of the education group. Following that, I go into behavioural details, such as participants' acts, strategies, and patterns within the institutional setting. This creates a connection between the macro-institutional environment and micro-behavioural patterns. Finally, I believe that collaboration between institutions and participants benefits the education group. Thus, comprehending the evolution of and influences on the education group requires a holistic and multi-level approach that considers the macro

institutional environment, the education group's organisational field, and individual teachers and principals. The features of this system are shown in Figure 3-2.

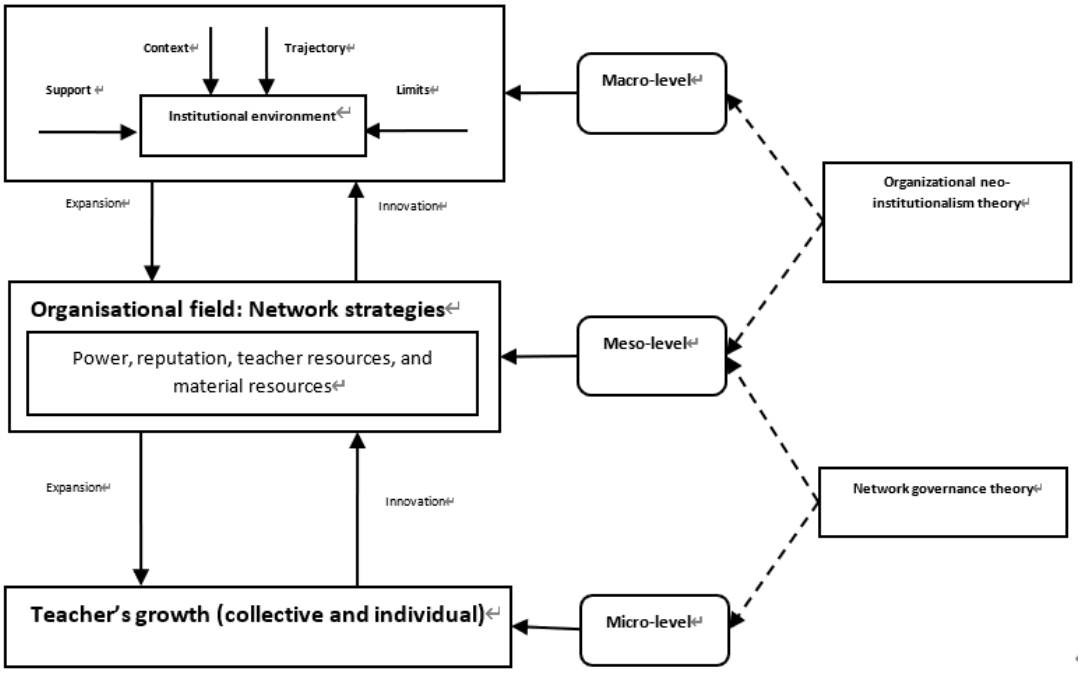

Figure 3- 2 Theoretical framework

On a macro level, I will focus on the institutional environment, which consists of three types of institutions: regulative institutions, normative institutions, and cognitive institutions (Sørensen & Torfing, 2005). Additionally, the educational group's development is identified and evaluated in relation to the institutional environment. This corresponds to my study's first sub-question (the trajectory of the education group), which will be addressed in Chapter Five.

At the meso-level, I will discuss the new organisational structure produced by the education group and the network tactics used to implement it. More precisely, this study investigates how member schools may exchange and re-construct resources. S. Zhang (2017) claimed that the education group possesses four distinct types of resources: power,

reputation, human, and material resources. As implied by the categorisation of S. Zhang (2017), this study also examines network techniques for sharing or re-constructing these four resources. Chapter Six will discuss techniques for meso-level network design.

On a micro level, my focus is on how the education group influences the changes of teachers on individual and collective levels. Meso-level network strategies are inextricably linked to the micro-level (teachers' changes). The new created form of organisation – the education group – must develop some innovative strategies to assist teachers' professional development. Conversely, teachers' changes in their beliefs, values, and actions would have a positive effect on the construction of education groups. In this respect, Chapter Seven of this study illustrates both meso- and micro-levels concurrently and addresses the third sub-question (the influences of the education group on teachers).

According to March and Olsen (1995), in the integrated theory of network governance, the entire network and its execution are founded on the network's institutional rules. Thus, after illustrating what occurred in the education group on these three levels, this study will reflect on the education group's institutional logic, which is primarily concerned with understanding the reasons for and processes of the education group's implementation and influence. Thus, in Chapter Eight, this study engages in a theoretical discussion based on this evidence.

3.7 Summary

This chapter has developed a new theoretical framework by fusing organisational neo-institutionalism and network governance theories in order to examine how the education group influences teachers on a three-level structure, with an emphasis on how the education group was created and developed within the institutional environment.

Meanwhile, the common threads running through the theoretical discussions on education group research point to specific processes by which the education group can influence teaching, such as focusing on the education group's structure, interactions, and negotiations between actors. The following chapter introduces the methodology and study design, followed by an explanation of how they were implemented to address my research questions.

CHAPTER FOUR
Methodology

4.1 Introduction

This chapter focuses on the research design and process of this study. It begins with the introduction of three aspects of the constructivist philosophical paradigm, namely epistemology, ontology, and methodology. It explains the rationale for selecting constructivism, showing its suitability for this research. An account is then provided as to how a case study was conducted in which two schools worked together to enhance teachers' teaching and students' learning. Outlined in this chapter are the research locations and participants. Three research methods (government documents, semi-structured interviews, and focus-group interviews) were used to generate data and identify documents for analysis, and thematic analysis was applied to make sense of the collected data. Finally, the credibility of this research and some ethical issues are discussed at the end of this chapter.

4.2 Constructivism

Generally, there are three interchangeable concepts comprising the philosophical foundation of research methods: methodology, research worldview (Creswell, 2014), and research paradigm (Kuhn, 1970; Tracy, 2020). Research paradigms refer to "the preferred ways of understanding reality, building knowledge, and gathering information about the world" (Tracy, 2020, p. 49). Thus, the discussion of the paradigm should include three aspects: ontology (the nature of reality), epistemology (the nature of knowledge), and

methodology (strategies of data collection and analysis).

There are various types of research paradigms according to studies (Creswell, 2014; Denzin & Lincoln, 2018; Guba & Lincoln, 2005; Tracy, 2020). Guba and Lincoln (2005) proposed four basic types of paradigms: positivism, post-positivism, critical theory, and constructivism. Similarly, Creswell (2014) suggested four types of "worldviews": post-positivism, constructivism, transformative, and pragmatism. In 2020, the research paradigms were reorganised into four types: (post-)positivist, interpretive, critical, and post-modern or post-structural (Tracy, 2020).

4.2.1 A constructivist philosophical worldview

Constructivism as a paradigm was established drawing on the premise that individuals construct their understanding of reality based on their personal experiences. As a result, a person's reality is built upon the interaction between people (Bryman, 2008). That is to say, in ontology, constructivist researchers believe that there are multiple realities rather than a single one, because reality has been built by people's understanding and interaction according to their experiences rather than through natural development. In epistemology, there is no stable knowledge that fits all. Individuals, based on their own experiences, construct knowledge. According to constructivism, knowledge is a reality constructed by personal understanding, and there is no one fit-for-all criterion of knowledge that can be viewed as a solid reality (K. W. Chan & Elliott, 2004). In addition, knowledge cannot be gained before personal experiences. Thus, research can clarify our understanding of one's personal life and experience through interactions with others. From the perspective of constructivism, practice becomes a broad and general situation in which individuals can deepen their understanding and obtain meanings of experiences through discussions and interactions.

In the realm of constructivism, researchers emphasise the influence of two aspects of background based on their interpretation of experiences: (1) participants' backgrounds, such as historical, cultural factors, and (2) researchers' backgrounds and experiences (Creswell, 2007). Consequently, these ontological and epistemological features require a reductive, exploratory-oriented research methodology. Specifically, during this qualitative study, the research emphasises the values of subjects (e.g., processes, persons and their perceptions, and documents), uses a bottom-up method to analyse data, and tries to figure out the themes or patterns based on the understanding of the researcher and research objects.

Constructivism (social constructivism), which is a typical approach to qualitative research (Creswell, 2014), was utilised to guide this study. First, the primary aim of this research was to reveal how an education group could support teachers. Thus, the voices and perceptions of principals, teachers and students were deemed vital. In this aspect, constructivism values deeply the voices of participants. Furthermore, there is limited knowledge about the development of education groups, despite it being prominent in ongoing school improvement in China. Therefore, there are no explicit theories to explain the implementation of education groups or to even reach a consensus about it among researchers or practitioners. Constructivism is thus an appropriate research paradigm for this research because of its focus on the shaping of ideas and concepts (as well as ways of being and doing) through social interaction. Finally, yet importantly, the ultimate goal of this research is to reveal the underpinning mechanisms concerning how to implement education groups and how it influences teachers. This contribution to research must be based and established on the premise that knowledge is socially constructed among all participants and researchers.

4.2.2 Qualitative research

Denzin and Lincoln (2011) defined qualitative research as "a situated activity that locates the observer in the world" (p. 3) and also emphasised that "qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them" (p.3). According to this definition, it seems that qualitative research requires researchers to collect data in a natural setting. Similarly, agreed with the importance of natural contexts in qualitative research and further argued that the role of researchers and relationships between researchers and their participants should receive attention in qualitative research.

As for school-to-school collaboration, this is an ongoing school improvement initiative, which is still being debated based on theoretical foundations but lacks empirical evidence (Croft, 2015; Pino-Yancovic & Ahumada, 2020). In China, although education groups have been implemented in many cities and positive influences have been reported in some newspapers (X. W. Yang, 2014), there is limited knowledge about why and how they work (L. Zhang, 2019). Thus, the urgent task of researching education groups is to collect first-hand data in the real context, rather than to propose and test some theories.

In this study, constructivism implies that knowledge about school-to-school collaboration is constructed based on interactions between the researcher and their participants, and how participants perceive interactions among each other that affect their teaching and learning. As the aim of this study is to understand how an education group improves teaching, conducting fieldwork and interviewing teachers and students is critical. When one is deciding on a research method, R. K. Yin (2018) argues that three factors need to be considered: the research question, the relationship between the investigator's control and actual behavioural events, and the focus of research. In this

respect, it would seem clear that the researcher cannot exercise any control on the implementation of an education group, which is regarded as a natural object.

According to the above discussion, qualitative research is an appropriate methodology to guide this research, given its focus on exploring natural objects in their natural settings.

4.2.3 Research position

The researcher's role in qualitative research has been emphasised widely in many studies (Creswell, 2007; R. K. Yin, 2018). X. M. Chen (2008) indicated that two aspects or factors regarding the researcher need to be considered carefully in qualitative research, namely, individual factors (such as gender, age, work experience, educational background, social-economic status, and personal psychological preferences), and relational factors between the researcher and participants.

The paradigm of constructivism that I have adopted in this study requires me to regard myself as a "learner", for the knowledge about school-to-school collaboration (education groups) is constructed by participants or by the interactions between the researcher and participants. Thus, as the researcher, I need to act as a learner to ensure that I listen carefully, and open-mindedly observe the voices and behaviours of participants within the school-to-school collaboration. Thus, this will enable me to understand what participants are doing and talking about regarding education groups. As a learner, I respected the daily experiences and regular rules of each participant. Moreover, as a learner in this study, I tried to find a suitable and comfortable time and place to conduct this research.

Nevertheless, throughout this study, it was important to understand my past learning

and training experiences, since they could also influence my thinking and behaviour. In the second year of my Master's degree, I was a part-time teacher in a secondary school in Shanghai and taught Grade Eight for a year. Furthermore, my Master's thesis explored how school-university collaboration influences teachers' professional learning, which is a type of school collaboration as well. To carry out this study, I interviewed primary school teachers and principals as well. This experience helped me to understand the school's arrangements within a working day and to understand the jargon used by teachers. Thus, during my present study, my previous experience helped me to reduce the psychological distance between myself and the interviewed teachers.

According to constructivism, external objective reality is constructed by the interaction between the researcher and the participants. Indeed, my understanding of the participants was constructed by exchanging knowledge and perceptions under the prevailing circumstances. X. M. Chen (2008) utilised the metaphors of "insider" and "outsider" to describe the relations between the researcher and participants. An "insider" refers to the researcher and participants from the same cultural group who share similar experiences, values, and living styles, while an "outsider" refers to the researcher and participants from different cultural groups who have marked differences in values, experiences, and living styles (X. M. Chen, 2008). In this study, I have adopted these two metaphors. During the data collection, I acted as an insider and tried to gain the participants' inner-thinking and voices when I interviewed them. During the data analysis, I regarded myself as an outsider who had no experience. By doing this, I pushed myself to find more interesting perceptions, values, or attitudes, although I may have been familiar with some of them.

4.3 Case study

4.3.1 Case study

This research follows R. K. Yin (2018) in regard to this research using a case study as a methodology, that is, an empirical method that investigates a contemporary phenomenon in depth and within its real-world context (R. K. Yin, 2018). The case study is an appropriate choice for this research because there is a clear boundary for my research subject, the education group in China.

Compared with other research design, case study has its special advantages. Cronin (2014) indicated that case study is an appropriate method to understand complexities of inter-personal processes within the social context. Similarly, Flyvbjerg (2006) stated that case study can directly evaluate the phenomena within the real-life situations, and a good method to propose hypotheses. Therefore, case study is a good approach to build up a field's knowledge basement (Merriam, 2009).

In contrast, Flyvbjerg (2006) further summarised five disadvantages of case study design: (1) the conclusion of one case cannot generalise to another; (2) case study is more suitable to develop hypotheses rather than test; (3) case study is more emphasize the value of theoretical knowledge rather than practical knowledge; (4) it is often difficult to summarise specific case studies; (5) case study contains a bias toward verification.

As for the case study research design, Stake (1995) proposed a five-step procedure to conduct a case study:

(1) Determine whether the case study is appropriate for the project or not;

(2) Identify the case(s);

(3) Data collection;

(4) Data analysis;

(5) Report the results.

Similarly, R. K. Yin (2018) also proposed five components of case study research design: a case study's questions, a case study's propositions, case(s), the logic linking the data to the propositions, and the criteria for interpreting the findings. Also, this study seeks to explain the phenomenon or answer the research questions of why and how (R. K. Yin, 2018). In this study, the case involves an intensive cluster, formed by two primary schools: a high-performing primary school (BG School), and a low-performing primary school (ZS School). Specifically, in this study, I have tried to explore why and how the education group can improve teaching.

The BG School was established in 1903 and has over 100 years of history. In the 1980s, the BG School was referred to as the county-level key primary school[8] (Tongxiang County Annals Editorial Board, 1996). Presently, there are more than 1,800 students and more than 100 teachers at this school. Thus, it is a school with a high standard of teaching and long traditions. The collaborating school, ZS School, was established in 1985 and is located in the suburban area of the city. Consequently, the majority of students of the ZS School have rural *Hukou* status (户口)[9]. Since 2014, these two schools have established

[8] In 1978, the Chinese Ministry of Education issued a policy named, "The trial plan of operating a series of key primary and middle schools" and designated some schools as key schools. This means those schools could obtain more resources and better student resources than the other schools. Thus, key schools always represent those that are high quality and have good reputations in their local areas.

[9] In China, Hukou (户口) or household registration divides people into two types, the urban Hukou, or the rural Hukou. These two types of Hukou are extremely difficult to interchange. Sometimes, the status of Hukou could be regarded as a label for the economic conditions whereby rural people's conditions are always lower than those of urban people.

a collaborative relationship, namely BG Education Group. The BG School is the dominant school[10] in this group.

To operate collaboratively, a new administrative team was established, in which the principal of the BG School was appointed as the Chief Principal of the BG Education Group and the principal of the ZS School was selected as the principal in the teaching division of the BG Education Group.

In this study, Tongxiang city[11] in the Zhejiang province was chosen as the research location. According to the level of economic development in China, Chinese provinces, autonomous regions, direct-controlled municipalities and special administrative regions[12] have been divided into three regions, namely eastern coast, central, and western. Compared to the central and western regions, the eastern coast is the most developed region in China and Zhejiang is one of the provinces that belong to this region (see the green shaded area of the map of China shown in the top left-hand section of Figure 4-1). Zhejiang has a population of more than 58 million people. In 2019, its Gross Domestic Product (GDP)[13] was more than 6 trillion yuan (about 1.2 trillion Australian dollars) and ranked fourth in China. The GDP per capita[14] of Zhejiang residents was 107,264 yuan

[10] Dominant school means BG is in charge of the daily operation of the education group.

[11] Tongxiang City is a county-level city governing by the Jiaxing City.

[12] China has 34 provincial-level administrative units: 23 provinces, four municipalities (Beijing, Tianjin, Shanghai, and Chongqing), five autonomous regions (Guangxi, Inner Mongolia, Tibet, Ningxia, and Xinjiang) and two special administrative regions (Hong Kong, and Macau).

[13] Gross domestic product (GDP) is the standard measure of the value added created through the production of goods and services in Zhenjiang province during a certain period (normally one year).

[14] Gross Domestic Product (GDP) per capita shows Zhenjiang province's GDP divided by its total

(more than 20,000 Australian dollars). These statistical data indicate that Zhejiang is one of the richest provinces in China with a high quality of life.

The education group was first established in Zhejiang province (X. W. Yang, 2014). The experiences of the education group in Zhejiang have been widely reported in many public and/or social media (such as television, radio, newspapers, and social networks[15]), indicating that this positively influenced teaching and dramatically reduced education disparity among schools (H. L. Dong & Li, 2014; Q. Dong & Ye, 2009). Scholars echo that education groups can close the educational inequality gap (Yu & Ruan, 2017b). Some robust evidence confirms the argument that Zhejiang province is a significant region with a high standard of education and relatively low school disparity (P. Xue, 2012). For example, The Chinese Ministry of Education utilised The Organisation for Economic Co-operation and Development (OECD)'s Program for International Student Assessment (PISA)[16] to test ten Chinese provinces or cities in 2009. The test results showed that Zhejiang was placed as the top region with the highest mean scores in reading (M=525), science (M=567), and mathematics (M=599) (P. Xue, 2012). This result confirmed that Zhejiang province has achieved excellence in the quality of education and the gap between top-performing and bottom-performing students has narrowed. In 2015, all urban districts and rural counties in Zhejiang province achieved the national standard for the

population.

[15] Social media refers to web-based communication tools, which help people to interact with each other by sharing and consuming information, such as Facebook, Twitter, and WeChat.

[16] PISA is a triennial survey conducted since 2000. It aims to assess how well 15-year-old students can apply the knowledge and skills they have learned at school to real-life problems and situations. It measures student performance in reading, mathematical, and scientific literacy.

balanced development of compulsory education.

Thus, according to the above analysis, Zhejiang is an ideal place for this study. I started to identify the schools that met my research criteria, via information in the newspapers, education database, and the official website of the Zhejiang Provincial Department of Education. Then, I emailed or called those schools to invite them to participate in my research. However, I received no positive feedback.

In a chance meeting, I discussed my PhD research with a professor from Zhejiang Normal University during his visit to Monash University. Surprisingly, I learned that this professor was an expert in studying education groups in China, hence he introduced me to two schools in Jiaxing City (the orange shaded area in the Zhejiang province map shown in Figure 4-1).

Jiaxing is a predominant city in the Yangtze River Delta[17] and is located in the northern part of Zhejiang province. This city is about a one-hour drive from Hangzhou (the capital city of Zhejiang province) and Shanghai, which is leading in educational reform in China. Taking locational advantage into consideration, education in Jiaxing is easily influenced by these two metropolises. Thus, many schools in this area have a long tradition of leading educational reform (Y. Zhou, 2008).

[17] The Yangtze River Delta is a triangle-shaped megalopolis generally comprising the areas of Shanghai, southern Jiangsu province, and northern Zhejiang province.

Figure 4- 1 Zhejiang Province map

Data source: Gui et al. (2015)

4.3.3 Research participants

After the research locations were identified, BG Education Group was selected with a purposive sampling method. Within the BG Education Group, there are seven member schools, and the BG School and ZS School were chosen. The reason of selecting these two schools is that the BG School is in charge of implementing the BG Education Group and ZS School closely cooperate with BG School. These two schools could provide abundant information of BG Education Group. Furthermore, various interviewees were recruited from BG School and ZS School; the two principals, 10 teachers and six students from two primary schools (BG School and ZS School) were invited to participate. Since all participation needed to be voluntary, potential participants were approached, given information about the research, and invited to participate with the assurance that there would be no repercussions if they decided not to be involved (see Section 4,7 below for more detail). The two principals served as key stakeholders and decision-makers in the BG Education Group. For this study, 10 teachers were selected for interviews, which were

based on the following four criteria: experience with mobility; involvement in collaboration; teaching experience; and variety in subjects. In this research, the first criterion concerning teachers' experience with mobility refers specifically to a teacher's experience (or lack thereof) of permanently moving or changing from teaching in a high-performing school to teach in a low-performing school, or the reverse (mobility from a low-performing school to a high-performing school context). Finally, six fourth grade students were selected based on their reporting on their learning experiences when they engaged in activities provided by the education group. The interview participants' profiles appear in Table 4-1 below and include their roles, experience, and contributions to this study. These participants serve as a solid basement to reveal the complexity of the BG Education Group's development with the following reasons. First, the selected two schools include two represent types of schools in the group: the dominant school and the member school. Also, the participants have various background and roles in the group and then could provide abundant information from different perspectives.

Table 4- 1 List of participants' profiles

Schools	Name	Subject / role	Teaching experience/ student grade	Contributions to this research	Code
BG Primary School	Mr. Zhu	Principal	22 years	Provided comprehensive information from within the education group about a high performing school perspective.	BG-ZH-01
	Mr. Shi	Mathematics	19 years	Provided information and perceptions from within the education group about the types of teachers without any mobilising experience.	BG-S-01

	Mr. Pan	Mathematics	20 years	Provided information and perceptions from within the education group about the types of teachers with experience of mobility from a low performing school to a high performing school.	BG-P-01
	Mrs. Yang	Chinese	Over 30 years	Provided information and perceptions from within the education group about the types of teachers who are approaching retirement.	BG-Y-01
	Mrs. Zhou	Music/ Vice Director of the Principal's office	17 years	Provided information and perceptions from within the education group regarding the types of teachers who act as middle leaders in the education group.	BG-ZH-02
	Mr. Wang	Physics	Four years	Provided information and perceptions from within the education group about novice teacher types.	BG-W-02
	Mrs. Qian	Mathematics/ Teaching Group Leader	Nine years	Provided information and perceptions from within the education group about the types of teachers who act as middle leaders in the education group.	BG-Q-01
	Three students	Students	Grade Four	Provided information and perceptions from within the education group about the types of students from the high performing school who experience activities within the education group.	BG-STU-01
ZS Primary School	Mr. Zhao	Mathematics/ Principal	31 years	Provided comprehensive information from within the education group about the low performing school	ZH-ZH-01

				perspective.	
	Mrs. Yao	Chinese / Director of Teaching	13 years	Provided information and perceptions from within the education group about the types of teachers who act as middle leaders in the education group.	ZH-Y-01
	Mrs. Wang	Mathematics	15 years	Provided information and perceptions from within the education group about the types of teachers who have mobilised from a high performing school to a low performing school.	ZH-W-01
	Mrs. Zhou	Science/ Teaching Group Leader	Eight years	Provided information and perceptions from within the education group about the types of teachers who act as middle leaders in the education group.	ZH-ZH-02
	Miss. Zhang	Mathematics	Three years	Provided information and perceptions from within the education group about types of novice teachers.	ZH-ZH-03
	Three students	Students	Grade Four	Provided information and perceptions from within the education group about the types of students from the low-performing school who experience activities within the education group.	ZH-STU-01

4.4 Methods of data collection

This study aims to explore the process of how the education group has operated and been utilised to influence teachers. Thus, the main research question for the research is:

How does the education group enhance teachers' change to reduce school disparities in Zhejiang province?

The three sub-questions are:

(1) *What are the trajectory and the driving forces of the education group's development?*

(2) *What kinds of network strategies have been initiated within the education group?*

(3) *Which aspects of teachers have been facilitated by the education group?*

The scale of implementation of education groups in China has risen since the first one was established in Hangzhou in 2002. Initially, education groups were developed in primary and secondary schools and the aim was to narrow the gaps between schools and solve the problem of school choice. On identifying the benefits of an education group, the central and provincial Chinese Governments started to promote this strategy to turn around low performing schools. However, the detailed operations of enhancing teachers' teaching to meet the level of collaborative schools are still unclear. To answer the three research questions, three methods have been utilised to collect data: document analysis, semi-structured interviews, and focus-group interviews.

4.4.1 Document analysis

Documents were analysed in this study to understand the recent role of an education group. Document analysis has been described as a method "to categorize, investigate, interpret and identify the limitations of physical sources, most commonly written documents" (Payne & Payne, 2004, p. 60). Documents are texts written in a social-political-historical context, and J. Scott (1990, p. 34) argued that "documents must be studied as socially situated products". Silverman (1993) commented that documents

included files, statistical records, records of official proceedings, and images while Payne and Payne (2004) proposed three types: individual, private, and public documents. Document analysis is widely used in historical studies (Bell, 2005) and as a supplementary method in social science (Mogalakwe, 2006), especially in the prevalence of social surveys and statistics (McCulloch, 2004). This study collected documents from government regions and schools. Considering the hierarchical feature of Chinese public policy implementation, this study mainly collected the educational policies from the Chinese Central Government (including the Chinese Ministry of Education). That is to say, the Central Government decides the scope and particular contents of educational policies, while the local governments are implementing policies under the direction of the higher-level governments (S. C. Zhu, 2013).

A method for triangulating the interview data was adopted for this study (Bowen, 2009). By reading the documents from central and local governments, as well as schools, I gradually gained an initial perception of education groups. These perceptions helped me to formulate my interview questions for different stakeholders within these collaborations, such as principals, teachers, and students. Furthermore, by reviewing several newspaper reports, I realised that teachers who have different positions within a school or have various levels of teaching experience may have different perceptions of an education group. Therefore, these teachers, as a result of their collaboration experiences, may have been influenced in different ways.

I collected documents from multiple channels. For example, I obtained the related educational policies from government websites. The newspapers were from the Chinese Academic Index (www.cnki.com) and principals and teachers provided some local documents. Details of the documents that I collected for this study are presented in Table

4-2.

Table 4- 2 List of documents

Date	Document name and number	Authorities	Context
Government documents			
25-05-2005	Some suggestions for further improving balanced development in compulsory education Jiaoji [2005] No. 9	Chinese Ministry of Education	Narrowing the gap between the regional and rural-urban disparity of schools.
29-07-2010	National medium to long term educational reform and planning outline (2010–2020)	Office of National Medium-long Term Educational Reform and Planning	The first systematic educational policy to guide education development from 2010 to 2020.
19-01-2010	On implementing scientific development to further foster balanced development in compulsory education Jiaoji [2010] No. 1	Chinese Ministry of Education	Chinese compulsory education has achieved universal education and is approaching a new stage that requires high quality, balanced development.
05-09-2012	Opinions on further implementing balanced development in compulsory education	The State Council	Pushing different departments of The State Council to implement the prior educational policies aiming for balanced development in compulsory education.
31-12-2013	Opinions on changing the necessary educational facilities of compulsory schools in poverty-ridden areas Jiaoji [2013] No. 10	Chinese Ministry of Education, Chinese Ministry of Finance, National Reform and Development Committee	Focusing on improving the necessary conditions of those schools located in poor or rural areas.
04-01-2014	Opinions on enrolling in secondary schools conducted by distance and that are free	Chinese Ministry of Education	Dealing with the problem of school choice.

	of exams Jiaoji [2014] No. 1		
26-04-2017	The compulsory educational, balanced development supervision, and assessment methods at the county level Jiaodu [2017] No. 6	Chinese Ministry of Education	Assessing the results of the series of former educational policies on balanced development in compulsory education.
School documents			
02-07-2015	The education group constitution	The second teachers' Congress	Implementing the development of school-to-school collaboration.
02-07-2015	Implementation measures of incentive performance-based salary in the education group	The Second Teachers' Congress	Reforming teachers' salaries and other benefits of distributed methods.
02-07-2015	Regulations on daily teaching in the education group	The Second Teachers' Congress	Proposing some requirements for teachers' teaching.
02-07-2015	Regulations on teachers' assessment in the education group	The Second Teachers' Congress	Proposing some standards for expert teachers involved in school collaboration.
02-07-2015	The annual assessment scheme in the education group	The Second Teachers' Congress	Proposing a holistic assessment plan in the collaboration scope.
02-07-2015	Methods of assessing and rewarding teaching quality in the education group	The Second Teachers' Congress	Encouraging teachers to focus on teaching quality.
02-07-2015	Methods of rewarding engagement in and publication of research in the education group	The Second Teachers' Congress	Encouraging teachers to make an effort to research and publish.
02-07-2015	Methods of rewarding through competitions in the education group	The Second Teachers' Congress	Encouraging teachers to participate in a competition and gain rewards.

4.4.2 Semi-structured interviews

This study seeks to understand how education groups improve teachers' teaching. Thus, participants' perceptions are vital for this research. A semi-structured interview is a suitable method for understanding the meaning of respondents' experiences and how they interpret these experiences (Seidman, 2006). In addition, teachers may feel uninhibited and relaxed when only a researcher and an individual teacher are present. As such, a one-on-one and face-to-face semi-structured interview provided an appropriate method to gain deeper insights into participants and meanings within contexts.

Before the formal interviews, I prepared my interview guide and the questions. As a start, I explained my research to the interviewees by presenting the interview guide (Adams, 2015). In each school, I interviewed the principal first. Specifically, within the interviews with the principals, I focused mainly on topics such as the history of the school and the education group. My focus on the education group involved its current organisational structure and development, detailed operation, and impact on teachers (the interview questions are presented in Appendix B). Thus, after the interview, I was able to obtain a holistic understanding of the school and the education group, as well as the impact of the education group on teaching from the perspective of the principals and those in leadership. The two principals provided important research data from a whole-school perspective, such as an overview of each of the schools' historical background, the development process of the education group, and necessary information about teachers. Once their permission had been obtained, each principal was interviewed for 60 minutes and audio recorded with an electronic device.

Afterwards, I interviewed teachers from a diverse range of backgrounds in terms of their teaching experiences, positions, and experiences within the education group. During

these interviews, I occasionally revised my interview questions (see Appendix B) based on the data that the teachers provided. I interviewed two teachers on every school visiting day. Then I transcribed the audio records (also after receiving permission from the interviewees) in Word documents and performed a brief analysis on the same day. Based on the results of the brief analysis, the interview questions were revised slightly for teachers who were to be interviewed the next day. For example, during the interviews with the principals, I learned that all qualified teachers are required to mobilise within the schools. According to the data that principals provided, teachers were divided into three categories according to the degree of their mobilising experiences. Therefore, I planned to select different types of teachers and ask them about their perceptions of mobilising within the collaboration. This was a strategy that I used to triangulate the data. All interviews were audio-recorded after receiving permission from teachers. Each interview lasted for 30 to 60 minutes.

4.4.3 Focus group interviews

In this study, I organised a focus group interview to collect the data from students, which involved interviewing more than two individuals at once (Beitin, 2012). The reason that I adopted a focus group interview was as follows. Firstly, the perspective of students provided a source of information regarding the implementation of education group strategies to deepen my understanding of how an education group improves teachers' teaching. According to the interviews with teachers, primary students might not be conscious of or able to figure out what activities are provided by their schools or what is involved in the education group's process. I reasoned that using focus groups might help students to clarify their perceptions regarding their schools and the education group during their interactions. Secondly, primary students are seldom able to have

opportunities to participate in such professional interviews, especially with strangers. Thus, primary students might have had difficulties in expressing their ideas if individual interviews were conducted. Alternatively, focus group interviews can provide a relatively relaxed atmosphere and environment where participants can chat with their classmates or friends. Finally, focus groups can act as an effective platform to share, compare, and organise opinions among students (Morgan, 2012; Morgan & Hoffman, 2018). A focus group interview is a good method to help primary students to share their thoughts and insights.

This study conducted two audio-recorded focus group interviews. Each of these interviews lasted for 30 minutes. Each group had three students who were selected from the same grade and school.

4.5 Data analysis

The following account of data analysis includes two subsections: document analysis and interview transcript analysis.

4.5.1 Document analysis

This study followed the suggestions of J. Scott (1990) regarding how to analyse the documents, which focuses on three critical aspects of a document: their origins, purposes, and the original audience. Furthermore, J. Scott (1990) proposed a series of questions to guide the analysis: What is this document? When was it created? Which government bureau or department wrote the document? Who do I think was the intended audience? What is the purpose of this document? What words are not familiar to me? What do they mean? Is any part of the document unclear? Why? What is the most important information in this document? Why is this document important?

4.5.2 Thematic analysis

I transcribed all interview records into interview corpora and each document included three parts: a brief description of the interview and my first impressions of the interviewees before the formal interview, the formal dialogue, and my reflections. In the section that included a brief description, I mainly focused on the personal information of the respondents and my first impressions of them as it was possible that their backgrounds may have influenced their perceptions and experiences. For example, I interviewed a teacher who is teaching Chinese. This teacher mentioned that she has taught for over 30 years and is retiring soon. During the entire interview with this teacher, she always repeated the information concerning her impending retirement when she presented her opinions about her teaching behaviours and perceptions. In the section relating to formal dialogue, I noted original pauses and some tones in the transcripts; for example, when teachers discussed a phenomenon and they remained silent for a few seconds, so I represented this silence in the transcripts as I believe that this might imply potential opinions (Bao, 2014). The last section included my reflections during the preparation of the transcripts, where I presented my first thoughts, and the puzzles I faced when I read these transcripts.

All original interviews were conducted in Chinese; all raw data were saved and analysed in Chinese. In the phase of presenting findings, all Chinese findings were translated into English. I did this because if I had translated all raw data into English and then analysed it, I could have missed some information so this would have caused bias.

Roulston (2014) suggested that data analysis be completed within three steps: (1) data reduction, (2) data reorganisation, and (3) data representation.

During the data reduction period, in line with the theoretical perspective and the purpose of this research, I read all of the transcripts and tried to find some themes. I wrote some reflective notes while reading transcripts. Thus, in this step, the main aims were to become familiar with the raw data and identify some potential themes.

In the data reorganisation period, I further read the transcripts using an iterative approach, which could be described as a process of reading-coding-re-reading-re-coding. By comparing and connecting the ideas expressed, the codes that were developed in the first step were further collapsed into different modules. Thus, at the end of this phase, according to the organisational neo-institutionalism theory (R. W. Scott, 2001), six particular institutions were revealed as driving the development of education groups, including (1) the inspection of the balanced development in compulsory education, (2) the inspection on Chinese education modernisation, (3) the social obligation of implementing national education policies, (4) the social obligation of improving low-performing schools, (5) the schema of education equity, and (6) the schema of teacher identity. Moreover, eight network strategies were identified, which had been proposed to share or re-construct resources between member schools, which include that (1) the Tiao-Kuai governance structure was established and the governance rules were standardised to share and re-organise power resources, (2) the education group shared reputational resources among member schools by building reciprocal relationships and reinforcing the social impacts of the education groups, (3) the human resources were shared by the strategy of mobilising teachers among member schools, and (4) the education group developed joint events for students and teachers to share learning opportunities and teaching resources. In addition, teachers were influenced by the education group in four domains (Clarke & Hollingsworth, 2002): (1) in the personal domain, teachers developed a network identity and shared the same collective goals of reducing school disparities and

achieving balanced and high-quality education, (2) in the practical domain, novice teachers were more focused on the practical teaching skills, while the experienced teachers concentrated on student-centred teaching values and cultivating students' creativity, (3) in the domain of consequences, the education group was able to reduce teachers' teaching pressures and provide students with a flexible learning climate, and (4) in the external domain, the education group was working as a source of external resources for teachers to improve their teaching capacities and for students to have more learning opportunities.

In the last data representation phase, I first connected the codes and themes with theory and tried to interpret the interrelationships. After that, I compared my findings with existing literature and identified the theoretical and practical contribution that I would be able to make to education group research.

Considering its advantages in saving time and improving efficiency, all transcripts and documents were analysed with NVivo 11. The details of the themes are presented in Table 4-3 below.

Table 4- 3 Coding of raw data

Themes	Nodes	Contents
The institutional environment of the education groups' development	Regulative institutions	The inspection regarding the balanced development in compulsory education
		The inspection of Chinese education modernisation
	Normative institutions	The social obligation of implementing national education policies
		The social obligation of improving low-performing schools

	Cultural-cognitive institutions	The schema of education equity
		The schema of teacher identity
Network strategies with the education group	Power resources	Establishing the Tiao-Kuai governance structure
		Standardisation of the governance rules
	Reputational resources	Building reciprocal relationships
		Reinforcing the social impacts of the education groups
	Human resources	Teachers' mobility
	Material resources	Joint events for students and teachers
Influences on teachers	Personal domain	Developing network identity
		Sharing collective goals
	Practical domain	Novice teachers
		Experienced teachers
	The domain of consequences	Reducing teachers' teaching pressures
		Providing students' flexible learning environment
	External domain	The education group is the source of various external resources

4.6 Credibility in qualitative research

Considering the differences in philosophical positions and research aims, the standards for assessing the quality of qualitative and quantitative research are different. Some studies argue that the terms: reliability, validity, and generalisability, cannot be adopted directly to describe the rigour and soundness of qualitative research (Long & Johnson, 2000; Rolfe, 2006; Sandelowski, 1993). As a result, this study used the term

credibility. Furthermore, Lincoln and Guba (1985) used three alternative sub-criteria to demonstrate the quality and rigour of qualitative research, which they referred to as truth value, consistency and neutrality, and applicability.

To ensure the credibility of qualitative research, I proposed using some strategies (Noble & Smith, 2015, pp. 34-35) as set out below:

Strategy 1: Accounting for personal biases which may influence findings (Morse, Barrett, Mayan, & Olson, 2002);

Strategy 2: Acknowledging biases in sampling and ongoing critical reflection of methods to ensure sufficient depth and relevance of data collection and analysis (Sandelowski, 1993);

Strategy 3: Establishing a comparison case / seeking out similarities and differences across accounts to ensure different perspectives are represented (Morse et al., 2002);

Strategy 4: Demonstrating clarity in terms of thought processes during data analysis and subsequent interpretations (Sandelowski, 1993);

Strategy 5: Engaging with other researchers to reduce research bias (Sandelowski, 1993);

Strategy 6: Respondent validation: Includes inviting participants to comment on the interview transcript and whether the final themes and concepts created adequately reflect the phenomena being investigated (Long & Johnson, 2000);

Strategy 7: Data triangulation, whereby different methods and perspectives help

produce a more comprehensive set of findings (Kuper, Lingard, & Levinson, 2008).

In this study, I used the above strategies to ensure quality. In the early stage of data collection, as the researcher, I posed comprehensive open questions to participants to gain a comprehensive and full image of the education groups. For example, I asked each principal to introduce the history of the school and the education group. As such, I tried to reduce personal bias and hypothesis by using no preference questions (Strategy 1). As for participant selection, I chose different groups of participants based on defined standards. For example, when I realised that teachers with different positions within the school might have different roles and functions in the collaborative process, I deliberately selected those with different positions in the education group.

Similarly, I found teachers' experiences of teaching context mobility were critical to the development of education groups. Thus, I recruited three types of teachers: teachers without any experience in mobility; teachers who had mobilised from a high performing school to a low performing school; and teachers who had mobilised from a low performing school to a high performing school. By doing this, I sought to ensure an enhanced depth of data collection (Strategy 2) and compare the perceptions of different groups of participants regarding the same activities in the collaboration (Strategies 3 and 7). During the data analysis period, I sent the transcripts to the relevant participants for double-checking to confirm that I had understood their meanings in the way they had intended (Strategies 4 and 6). Meanwhile, I sent the coding to my supervisors and discussed it with them so that they could check my data analysis and ensure I was interpreting this in an unbiased way (Strategy 5). In addition, data triangulation was achieved by recruiting various types of participants and collecting different types of

documents related to this study (Strategy 7).

4.7 Ethical considerations

The issue of ethics is a vital component throughout the whole research process, for "[ethics] are connected to the authenticity and validity of the research project" (O'Toole & Becket, 2010, p. 96) and for the protection of participants as well as researchers (Von Unger, 2016). In this study, the main ethical issues are: how to recruit participants ethically, how to protect participants from harm, and confidentiality. These three issues were addressed as follows.

Firstly, before the formal data collection, I applied for a Human Ethics Certificate of Approval (ID: 22073) (Appendix A) from the Monash University Human Research Ethics Committee (MUHREC) to regulate and guide the whole research. Two signed permission letters from the school principals were submitted to the MUHREC for its records.

All the related documents, such as consent forms (Appendix D) for participants, interview questions, and notices and explanatory statements (Appendix C) were sent to the committee for review.

Secondly, all participants were selected on the premise that participation was voluntary. Before the formal interviews, I provided interview guides and questions to the participants. This was done so that the participants could have a better understanding of my research as well as have the opportunity to develop a sense of what they might like to do or say. In regard to my research and interview questions, there was no potential physical or psychological stress for the participants. Moreover, all interviews took no longer than 90 minutes and mutually agreed appointments were arranged beforehand. During the interviews, I recorded our discussions after obtaining permission from each

participant.

Thirdly, I transcribed all records and filed them on a private laptop with a safe password. In the data analysis and this current report, I have utilised pseudonyms instead of participants' real names to protect their privacy. During the entire research process, all participants were made aware that they had the right to withdraw from this research at any time. In addition, if any participants wished to complain or were struggling with research or interview questions, or with me, they could and can still contact me or MUHREC directly by sending an email or making a telephone call.

4.8 Summary and commentary

This chapter presents an overview of the research design and the specific research process. A case study method was adopted in this research under the guidance of constructivism. The research location, participants and their selection, and the three data collecting methods have been discussed in detail. The ethical issues of this research and the credibility of research design, data collection, and analysis were further reported in the previous two sections.

The detailed data collection and analysis process indicates a potential innovation in methodology that is using holistic thinking to guide the research design and data collection. For example, when realising that the two principals were able to provide an overview of their education group, it was decided that they would be interviewed first. After the interviews with the principals, a decision was made regarding the types and numbers of teachers who would be interviewed. This process was like doing a jigsaw puzzle that included two steps: firstly, interviewing principals helped me to find the model and components of the jigsaw; then, different types of teachers formed the pieces of the

jigsaw so interviewing them helped to figure out the puzzle.

The next chapter draws on the analysis of the documents and interview data to discuss the developing trajectory of the education group, and the driving forces behind this development.

CHAPTER FIVE
The Trajectory of the Education Group in China

5.1 Introduction

Chapter Four provides a description and rationale for the research design and the specific process of this study. This chapter answers the first sub-question, which is "*What are the trajectory and the driving forces of the education group's development?"* According to the literature review, reported in Chapter Two, previous studies have widely explored the definitions of school-to-school collaboration (education groups) and their implementations and influences on teachers and students, while they have rarely examined the development of education groups within their policy context. However, as organisational neo-institutionalism theory has criticised, an organisation's development is always inserted in the macro environment, and it is hard to understand the development of education groups if we ignore their social and policy contexts (Sørensen & Torfing, 2005). Thus, the main purpose of this chapter is to identify the trajectory of education groups in the Chinese context and analyse the driving force/s for them under the perspective of organisational neo-institutionalism theory at the macro level. Furthermore, education groups have been explored within institutional environments, which include regulative, normative, and cultural-cognitive institutions (R. W. Scott, 2001).

This chapter draws on data from the analysis of Chinese education policies during the past twenty years (2001-2020) and interviews data from a case study in the Zhejiang Province. All these data reveal three reasons for the birth of education groups, namely, addressing the problem of school disparity, improving the performances of suburban and

rural schools, and reducing educational inequity.

This study reveals the following three categories of driving forces for the presence and development of the education group in the case study. From the regulative institutional perspective, two forms of educational inspection have affected education groups by driving their development, which involves how the school inspection relates to the balanced development of compulsory education and education modernisation. From the normative institutional perspective, three types of social obligations have influenced the development of education groups: implementing national education policies, improving low performing schools in rural regions, and reducing school disparities. Two modern schemas have shaped education groups from a cultural-cognitive institutional perspective: the schema of education equity and the schema of teacher identity.

This chapter is structured as follows. Section 5.2 traces the birth and rise of education groups through the analysis of policy documents. Section 5.3 indicates the development of education groups in Zhejiang Province based on document analysis and interviews. Section 5.4 reports the results of investigating the various forms of education groups by developing a typology according to the literature and then fitting the data and circumstances of this case to determine its type. Sections 5.5 to 5.7 examine the institutional environment in relation to the growth of school-to-school collaboration. Section 5.8 summarises the key arguments of this chapter and concludes with some recommendations, as well as an introduction to the topics of the next chapter.

5.2 The rise and development of education groups in China

For the Chinese economy to recover at optimal speed, the key school policy was developed, which aimed at fostering the efficiency of cultivating talents by re-allocating

the limited resources to nominated key schools. Indeed, the key schools have made a significant contribution to providing qualified human resources, but this policy also gave rise to negative impacts (Yuan, 1999). School inequality is one of those impacts, which was identified as involving large disparities between schools in various areas, including students' academic performance, school resources, reputations, and social status (J. Liu, 2013).

Due to school disparity, the key schools and the ordinary schools are engaged in separate developing circles (J. Liu, 2013). Students from the key schools, for example, always have higher academic results, as opposed to those from the regular schools. A key school always has more students admitted to top Chinese universities, which is one of the main concerns for Chinese parents. The advantage of the college entrance examination is that it gives a key school an incredibly good social image, which attracts more resources from the local governments and more high-performing students. As a result, a virtuous circle benefits the further development of a key school. Ordinary schools, on the other hand, operate in a highly competitive environment. They may obtain only minimal numbers of high-performing students and resources, and more specifically, the high-performing students may not attend these schools. Therefore, ordinary schools struggle to achieve adequate student grades in the college entrance examination. Consequently, ordinary schools are trapped in a vicious cycle of development.

Furthermore, school inequality exerts some negative impacts on both parents and students. On the one hand, parents often choose key schools for their children, which may lead to intense competition for admission to these schools (J. Liu, 2013). This competition can impose further social and economic pressures on parents. For example, in order to gain admission to key schools, the parent will be expected to pay additional enrolment

fees. On the other hand, the majority of high-performing students are enrolled in key schools, and competition among them may cause psychologically detrimental problems (J. Liu, 2013).

It is suggested in many national-level educational policies that education groups are one of the major strategies for addressing problems caused by school inequality (W. Y. Li et al., 2021). Simple clues regarding the trajectory of how the Chinese Government has gone about verifying and tackling school inequality can be found in educational policies, which have been provided by the Central Government since 2001 (L. Z. Cao & Fang, 2020). To facilitate the account of this trajectory, I have divided the process of solving school inequality, as represented in the educational policy, into the following three stages: the concerned stage, the strategic stage and the extending stage.

5.2.1 The concerned stage: 2001-2010

The concerned stage (2001-2010) is defined because the problem of school inequality had just entered into the scope of national education policy, guided by the value of balanced development of compulsory education (T. Liu & Cheng, 2018a). The problem of school inequality was described as a school gap in one of the most important Chinese educational policies: "On the Basic Education Reform and Development Decision" *(关于基础教育改革与发展的决定)* (Chinese State Council, 2001). Within this policy, it was stated that "the overall quality of Chinese basic education was not as good as expected, and still had disparities among schools. In some places, the local government did not pay enough attention to develop basic education" (Chinese State Council, 2001).

Consequently, addressing school disparities and achieving the balanced development[18] of compulsory education become a national concern, especially in Chinese rural areas (T. Liu & Cheng, 2018a). For instance, the Chinese State Council issued a special policy to improve rural education, namely "Decisions on Further Strengthening Rural Education" (Chinese State Council, 2003).

To effectively address the problem of school disparities, the Chinese Ministry of Education (MOE) released the policy entitled: "Some opinions on further improving balanced development of compulsory education"*（教育部关于进一步推进义务教育均衡发展的若干意见）*(Chinese Ministry of Education, 2005). This policy aimed to solve the disparities in six areas: Perceptions of the importance of balanced development of compulsory education, teaching infrastructure, teacher resources, teaching quality improvement, assistance for vulnerable students, and inspection systems. Specifically, this policy proposed 10 strategies, including (Chinese Ministry of Education, 2005)[19]:

(1) Giving priority to reducing school disparities, especially those between rural and urban schools, between schools in the same area, and improving the infrastructure and the fundamental teaching facilities of rural schools and low-performing schools in urban areas.

(2) The educational bureau establishes a public financing system to ensure the implementation of the balanced development of compulsory education.

[18] Balanced development (均衡发展) is a descriptive concept that always appears in Chinese educational policy. It refers to two schools from the same district sharing the same or similar basic teaching facilities, teacher resources, and student sources as well as providing the same or similar quality of teaching.

[19] In this thesis quoted data that were available to the researcher only in Chinese written or oral forms have been translated into English by this author.

(3) Encouraging high-performing schools to support low-performing schools by integrating, coordinating, or sharing resources.

(4) Taking effective measures to solve the problem of school choice.

(5) Giving priority to meeting the requirements of rural schools and low-performing schools when distributing or recruiting teachers.

(6) Increasing teachers' professional training opportunities, especially for those from rural or low-performing schools.

(7) Improving instructional quality is the top priority when distributing resources, such as teacher resources and funding.

(8) Establishing a regulatory and scientific system to monitor educational quality.

(9) Encouraging the balanced development of compulsory education by adopting ICT technologies.

(10) Implementing a national students' assistance policy.

Moreover, in reviewing these ten strategies, this study argues that two critical approaches were suggested to assist the low-performing schools: (1) high-performing schools sharing resources with low-performing schools, and (2) low-performing schools merging or partnering with high-performing schools and then establishing collaborative relationships. These two approaches were considered the early stage of the implementation of education groups, with a focus on building collaborative relationships in one or more areas of school operations, such as exchanging classroom resources or human resources. However, in the endeavour to reduce school disparities, it seems that these measures did not provide the desired benefits. An investigation of educational bureau directors substantiated this claim by revealing that school disparities persisted in finances, teacher resources, teaching facilities, school administration, quality of students' sources, and teaching quality (J. Xu, 2006).

5.2.2 The strategic stage: 2010-2012

In order to highlight the importance of resolving school disparities, the second stage began in 2010 and continued until 2012. The strategic stage was so designated for two reasons: (1) reducing school disparity was now a national initiative rather than a national concern, and (2) reducing school disparity was no longer solely the responsibility of the education department. The Central Government expected other departments to commit to resolving the problem of school inequality. Therefore, an obvious shift occurred, in which more departments of the Central Government participated in addressing school disparities.

To further ensure the implementation of the balanced development of compulsory education, the Chinese MOE released a policy: "Opinions on Implementing Scientific Development to Foster the Balanced Development of Compulsory Education" *(教育部关于贯彻落实科学发展观进一步推进义务教育均衡发展的意见)*, which proposed 12 recommendations to address the disparity problems, such as exchanging urban and rural teachers[20], sharing resources, and rebuilding low-performing schools (Chinese Ministry of Education, 2010). In comparison to the strategies suggested in 2005, this policy specified some more comprehensive ones. The obvious changes were presented in two aspects (Chinese Ministry of Education, 2010). First of all, a clear plan for achieving the balanced development of compulsory education was published in this policy, emphasising that until 2012, disparities between the schools located in the same district would be reduced dramatically. By 2020, school disparities within the same district and

[20] Urban teachers' exchange with rural teachers is a dual direction exchange, which means urban teachers move to rural schools, and after the service period, these urban teachers could move back to their original schools, and vice versa.

across the districts would be completely addressed. Second, to fulfil the plan, this policy further required some initiatives aimed at formulating a matching institutional environment and the achievement of balanced development of compulsory education; these were regarded as national core tasks.

Similarly, another important policy also emphasised the importance of reducing disparities, which was issued by the Communist Party of China (CPC) and the Chinese Central Government, named "National Medium- and Long-term Education Reform and Development Plan (2010-2020)" *（国家中长期教育改革与发展规划纲要（2010-2020））*(Chinese Central Government, 2010). This policy showed concern regarding the balanced development of compulsory education by the Chinese Central Government and presented four changes to address the school disparities (Chinese Central Government, 2010). Firstly, it claimed that reducing disparities and achieving the balanced development of compulsory education was regarded as the national strategic task in Mainland China. Secondly, this policy claimed to establish a comprehensive system to ensure the implementation of the balanced development of compulsory education. Thirdly, this policy promoted the construction of standardised compulsory schools by evenly allocating teachers, teaching equipment, books, school facilities, and other resources. Finally, this policy indicated three types of school disparities, namely, disparities between the schools from the same district, rural-urban school disparities, and disparities between the schools across the various districts. The disparities between the schools from the same district referred to gaps between schools, located in the same district. The rural-urban school disparities concerning gaps between schools in rural and urban areas. The disparities between the schools across the various districts referred to gaps between schools located in different districts.

The strategic stage shares two parallels with the concerned stage: (1) the strategic stage was still driven by the value of achieving the balanced development of compulsory education, and (2) only partial collaboration among schools was proposed to address school disparities. The term "partial collaboration" refers to the fact that collaborative relationships between schools were only established in particular subsets of schools rather than between whole schools.

5.2.3 The extending stage: 2012-present

The third stage (2012 - present) is referred to as the extending stage since a new form of education group was proposed and needed to be implemented across the entire country in order to be sustainable. Meanwhile, in this stage, the guiding value is not only the priority that is given to providing equal opportunities for students in their access to schools, but also the requirement that students have equal opportunities to obtain a high-quality education. That is, before 2012, the main concern of these policies was to ensure that all children of appropriate ages had the same opportunities to attend public schools, whereas now, in addition to equal opportunity, the Chinese Government wants all children to have a high-quality education. Moreover, in the third stage, the member schools of education groups were required to collaborate comprehensively rather than on one particular aspect of daily operation.

The Chinese State Council proposed a new policy to achieve balanced development in 2012, titled, "Opinions on Deepened Implementing of the Balanced Development of Compulsory Education"*（国务院关于深入推进义务教育均衡发展的意见）* (Chinese State Council, 2012). A review of the main content of this policy by this study identified three features: First, three new forms of school-to-school collaboration, called school

alliance（学校联盟）， education group（集团化办学）, and education zone （学区） were introduced. In addition, this policy added a new requirement for the promotion of urban teachers, requiring them to work in rural schools for at least one year (Chinese Ministry of Education, 2017b). Finally, this policy established a holistic framework with eight components to address the issue of school disparities. These included emphasising the importance of addressing the issue, setting up basic goals, sharing resources, allocating the operating resources evenly, allocating the teacher resources, assuring opportunities for accepting students with special needs, focusing on educational quality, and improving school management (Chinese Ministry of Education, 2017b).

In 2017, the CPC Central Committee and the Chinese State Council published a new educational policy, titled “Opinions on Deepening the Reform of the Educational System and Mechanism” *（关于深化教育体制机制改革的意见）*(CPC Central Committee & Chinese State Council, 2017). Under this policy, education groups were further extended to the entire country by forcing local educational authorities to investigate how to implement this model. As a result, some cities or provinces, including Beijing, Shanghai, and Zhejiang, published more detailed policies on implementing education groups.

For example, the Beijing Educational Committee released a policy in 2018 called “Opinions on Improving Primary and Secondary Education Groups in Beijing”*（关于推进中小学集团化办学的指导意见）* in response to a request from the Chinese Central Government to add further information (Beijing Educational Committee, 2018). To begin, five fundamental principles were identified to direct the implementation of education groups, namely, enhancing balanced development, achieving joint development, sharing resources, activating educational inspiration, and fostering the characteristics of each school (Beijing Educational Committee, 2018). Second, the policy outlined the primary

goal as well as four different tasks (Beijing Educational Committee, 2018). In total, the primary goal was to ensure the balanced development of compulsory education by distributing and re-allocating resources through education groups. The four outlined tasks were: locating education groups within and between school districts, re-organising the governance structure, sharing resources (teaching facilities, curriculum, and teachers), as well as reforming the school system and institutions (Beijing Educational Committee, 2018).

In Shanghai, the education zone and education group have been implemented in four districts to improve educational quality since 2014 and were expanded to the entire urban area in 2015 (Q. Xu, 2015). In 2019, the Shanghai Educational Committee published a new policy, titled "Opinions on Constructing Intensive Education Zone and Education Group"*（关于推进本市紧密型学区和集团建设的实施意见）*(Shanghai Educational Committee, 2019). Five main strategies were proposed in this policy to foster intensive collaboration in education districts and groups within Shanghai (Shanghai Educational Committee, 2019). At the end of 2020, Shanghai had 155 education groups, involving 794 primary and middle schools (Kimberly, 2020).

5.3 The development of education groups in Zhejiang Province

In this study, there are two reasons for initially introducing the development of education groups in Hangzhou. The first reason is that Hangzhou established the first education group in 2002 in China, thus Hangzhou has a long history of constructing education groups and has accumulated extensive experience in conducting them. Therefore, Hangzhou could be a critical reference in implementing education groups. Second, Hangzhou is the provincial capital city of Zhejiang Province and thus has a strong

impact on other cities in Zhejiang Province. Tongxiang is a small city located nearby Hangzhou. Thus, Tongxiang has developed education groups with its features and refers to the experiences of Hangzhou. In this section, the development of education groups in Hangzhou is firstly introduced followed by the introduction of Tongxiang's experiences when constructing its education groups.

5.3.1 The development of education groups in Hangzhou

While the term "education group" was first used explicitly in an educational policy document in 2012, the practice had been in place for more than a decade. Hangzhou Qiushi Primary School in Zhejiang Province took the lead in establishing the education group in Mainland China in 2002 (X. W. Yang, 2014). Initially, there was one high-performing school and three low-performing schools in the Qiushi Education Group. Therefore, it was primarily a model of high-performing schools combined with low-performing schools (G. M. Shi & Wang, 2006). Given the promising outcome of an education group to improve low-performing schools, the Hangzhou Municipal Government designated it as a city-level school enhancement plan to eliminate school disparities in 2004 (Yu & Ruan, 2017b). As a result, numerous models of implementing education groups were created, such as high-performing schools + ordinary schools, high-performing schools + rural schools, and high-performing schools + low-performing schools (J. P. Shen, 2018).

Figure 5-1 depicts the growth pattern of the education group in Hangzhou. There were only 28 groups with 140 schools in 2004. After 13 years, the number of education groups rose to 356, representing slightly more than 13 times the 2004 figure. Similarly, the number of participating schools grew by almost tenfold to 1,333. Moreover, based on this figure, it can be concluded that (1) Zhejiang has a long tradition of utilising education

groups to improve school quality (X. W. Yang, 2014), and (2) the number of schools participating in education groups has risen significantly over the last two decades.

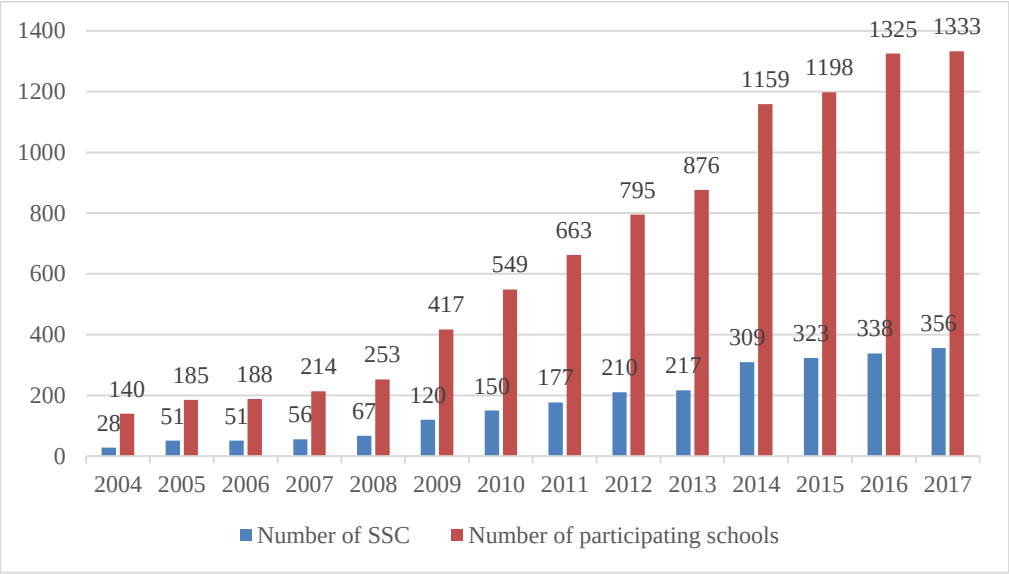

Figure 5- 1 The trend of education groups in Hangzhou

Data source: The statistics yearbook of Hangzhou education, 2004-2018 (Hangzhou Education Bureau, 2020).

A local education bureau director summarised the developing history of education groups in Hangzhou, as occurring over three periods (J. P. Shen, 2018).

The first period (2004-2010) is referred to as that of the high performing school (Shen, 2018). This period applied to a high-performing school that partnered with other schools, such as low-performing schools, new schools, private schools, or rural schools. All participating schools were from the same district and all of them maintained their autonomy.

The second period is known as the regional community (2011-2013), and the collaboration was mainly between rural and urban schools (Shen, 2018). Many of the

schools involved were from neighbouring districts. All participating schools in the regional community shared a common vision while a new organisation, such as a committee of principals, was formed to oversee the growth of education groups.

The last period is called the new high-performing education group (2014 - present). Several comprehensive guiding strategies, such as the exchange of teachers between the participating schools and technology-driven collaborative approaches, have been included in the new high-performing education group. This type of education group has intended to use these tactics to co-create and distribute educational resources across districts (J. P. Shen, 2018). In particular, three initiatives have been launched in this period, according to Yu and Ruan's (2017) investigation and are as follows:

(1) Encouragement to urban high-performing schools to establish new campuses in rural areas.
(2) Education groups coordinate the enrolment of new students being randomly assigned to each participating school.
(3) Matching one urban district with one rural town to assist with the improvement of their rural schools.

The next section presents a brief history of the education group in Tongxiang before revealing the factors which shaped it from the viewpoints of participants in the institutional environment.

5.3.2 The development of the BG Education Group in Tongxiang

Analysis of the interview data and documents found that there were three stages of the growth of the BG Education Group in Tongxiang, which are represented below.

The first stage (2003-2009) is called “building a new campus” because the local government encouraged high-performing schools to manage a new campus in another location, especially in the suburban area, which was built by the Chinese Government. In my case, the BG School established a new campus in 2003 and was renamed ZD School in 2007. ZD School has had an independent administrative team since 2007. Because the ZD School was established and managed by BG School in the early stage, these two schools have relatively closer links with each other than other schools.

The ZD School was designed to meet the educational needs of newly arrived urban residents who had come from rural areas. However, the ZD School faced significant survival difficulties. On the one hand, the original residents were dissatisfied with their children being in the same class as new migrants. The explanation for this was that the original residents considered that the children of recent arrivals would have a detrimental impact on their children’s study and living practices (W. Y. Liang & Zhang, 2013; Y. Y. Zhang, Luo, Dong, & Liu, 2016). On the other hand, there were significant differences in infrastructure and human resources between low-performing schools and high-performing schools. Many city families selected high-performing schools for their children in order to obtain a high-quality education. As a result, some classrooms were overcrowded, with one class having more than 80 students, while some other schools did not have enough students. The problem concerning school choice (choosing key schools or high-performing schools for children) triggered social inequity. This was because parents with high economic statuses could gain preferential access to key schools for their children by paying extra fees, while parents with low economic statuses were not able to choose for their children. As a result, the disparity between families with high and low economic statuses would become a type of educational inequality for their children. To sum up, this study argues that a newly created school, such as the ZD School, could

provide more learning opportunities while failing to ensure the quality of education. Therefore, how to promote the educational quality of these newly created schools and providing more learning opportunities for children was still a critical challenge.

The second stage (2009-2019) was the "education group" stage. The local educational bureau established the BG Education Group[21] in *2009,* which included two high-performing schools and two new campuses affiliated with the high-performing schools. In 2017, another three ordinary schools joined the BG Education Group, bringing the total to seven. However, a new problem emerged as a result of the overabundance of teachers in this education group. For instance, a principal introduced an example: "*There was no large meeting room in Tongxiang City to host all teachers from the education group BG Education Group" (BG-ZH-01).* That is to say, the oversize of the BG Education Group was detrimental to successful management. To address these problems, a new approach was embarked on by moving to the third stage.

The third stage, which has been in place from 2019 to the present is called the stage of the cluster since the BG Education Group established three clusters (Cluster BG-ZS, Cluster CB-CH, Cluster ZD-RM-FM) based on the locations and connections between member schools. My case is the Cluster BG-ZS, which includes the BG School (high performing school) and the ZS School (low performing school). The formation of the cluster does not imply the breakup of the education group. Rather, the relationships and interactions between schools in the clusters have become closer than those in the group in terms of joint events and exchanging resources. The development of the BG Education

[21] BG Education Group is the education group dominated by BG Primary School, including seven member schools.

Group in my case is illustrated in the following Figure 5-2.

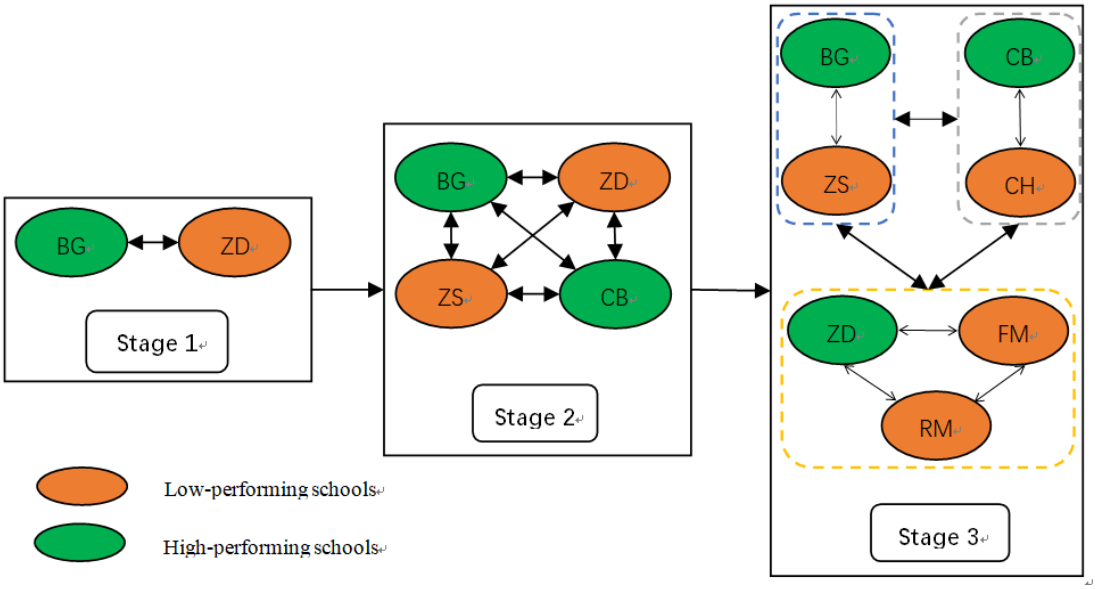

Figure 5- 2 The Trajectory of the BG Education Group

Data source: Self-created. NOTE: BG, CB, and ZD are high-performing schools. ZS CH, RM, and FM are four low-performing schools.

The theory relating to organisational neo-institutionalism for the three institutions was drawn on through the analysis of policy documents and interviews with participants in this project. These three institutions contribute to understanding the birth and prevalence of Chinese education groups. The following three sections explore the influences on the education group from regulative, normative, and cultural-cognitive institutions (R. W. Scott, 2001).

5.4 The regulative institutions and their influences

According to the framework developed by R. W. Scott (2001), regulative institutions apply the institutions or rules with coercive requirements and are "more formalized, more explicit, more easily planned and strategically manipulated" (R. W. Scott, 2010, p. 6).

Thus, a regulative institution defines what must be done, what cannot be done, and the behavioural patterns or orders. Regulative institutions provide legitimacy for behaviours through reward or punishment. Individuals work as rational calculators and then decide to follow or obey the regulative rules.

This study argues that regulative institutions influence the development and implementation of education groups. The reason for this statement is that during my interviews with teachers and principals, their views were repeated, such as the view that they should take directions from the local education bureau because they had no alternatives.

Based on the interviews, document analysis, and research literature, the main regulative institutions influence an education group through school inspections, particularly focused on the balanced development of compulsory education and educational modernisation.

5.4.1 Inspection of the balanced development of compulsory education and its impacts

The inspection of education was described in the Chinese educational inspection regulations as follows: “the State Council and local governments at or above the county level [are] to supervise the educational work of their subordinate departments, the lower local governments, and schools, covering compulsory education, middle schools and secondary vocational education” (Ke, 2011, p. 91). Such compulsory school inspection is carried out using three methods of universal and balanced development levels: comprehensive inspection, special inspection, and routine inspection (Ke, 2011). Thus, the primary responsibility of educational inspection is to oversee the implementation of

national policies.

In the interviews with teachers and principals, they also mentioned that the emergence of education groups is aimed at reducing school disparities by promoting low-performing schools. Therefore, as a critical strategy in achieving the balanced development of compulsory education, education groups were regarded as automatically in need of inspection during the overall inspection of the balanced development of compulsory education.

More specifically, the Chinese MOE released a critical policy in 2010 called "Opinions on Implementing Scientific Development to Foster the Balanced Development of Compulsory Education" *(教育部关于贯彻落实科学发展观进一步推进义务教育均衡发展的意见)* to illustrate two significant recommendations (Chinese Ministry of Education, 2010):

(1) Promoting the balanced development of compulsory education is the most critical challenge for Chinese education reform in the immediate future.
(2) Requesting the Department of Education Inspection to recommend indicators and guidelines for assessing the extent of balanced development of compulsory education at the county level.

In addition, the Chinese MOE published a key document, titled "Interim procedures for inspection and evaluation of the balanced development of compulsory education at the county level" *(县域义务教育基本均衡发展评估办法)* (Chinese Ministry of Education, 2017a), to regulate the balanced development of education. Simultaneously, several Chinese provinces and cities published their inspection plans (J. C. Zhu, Ruan, & Liu, 2010).

This study has not only outlined some of the representative inspection schemes for minimising educational inequality (Chu & Gao, 2010; S. H. Dong & Fan, 2011; G. R. Li & You, 2015; X. L. Li, Ran, & Wang, 2020; E. Y. Xue, 2013; Zhai, 2006; J. C. Zhu et al., 2010) but also discovered that these schemes took into account the intentions and interests of nearly all related stakeholders by proposing the following as benchmarks:

(1) The equitable opportunity of admission of students to high-performing schools. These schemes will consider how many rural students enroll in these schools compared to urban students, as well as how many students are able to choose these schools by paying higher fees.

(2) The input from the local government. These schemes will determine the fairness of institutions and policies for the local education bureau. The differences in investment between rural and urban schools are to be compared in the scheme for input.

(3) Students' satisfaction regarding their academic achievements. This also concerns the final result as to what extent students are satisfied with their academic achievements.

The inspection reports are sent to the Chinese MOE and published on the official website[22], clearly showing which counties have passed or failed the assessment of the balanced development of compulsory education. Therefore, these evaluating schemes place significant strain on local educational bureaus and schools. To respond to this inspection pressure, the education group is an effective and popularised approach utilised by the local education governments and schools.

[22] http://www.moe.gov.cn/fbh/live/2019/50415/sfcl/201903/t20190326_375276.html

5.4.2 Inspection of Chinese educational modernisation and its impacts

Educational modernisation is described as an education process for adapting to the development of modern society (X. W. Yang & You, 2021). During this process, a country or a region's standard of education is constantly adapting to conventional educational ideas, educational system norms, contents, methods, and behaviours and increasingly becomes a new form of modern education (X. W. Yang & You, 2021). The achievement of equitable and high-quality education is a key component of Chinese educational modernisation (Song, Yang, & Fan, 2021; E. Y. Xue, Li, Shan, & Fan, 2019). The Chinese State Council released an educational policy, titled "Chinese education modernisation 2035" *(中国教育现代化 2035)* (CPC Central Committee & Chinese State Council, 2019), to show ten specific strategies to obtain high quality and highly equitable education, including the standardisation of primary and junior secondary schools in order to narrow the gap between rural and urban schools.

Moreover, eliminating educational disparities was an important aim of the Chinese education modernisation process. The aim of balanced compulsory education development is not only to promote fairness and close the gap between schools but also to improve the overall quality, which requires an equal focus on fairness and quality, to provide each student with a more equitable and higher quality education than before (Chu & Gao, 2010). Therefore, balanced development was paired with educational modernisation to create a combined power.

Several systems of assessment have been proposed in studies to inspect the process of educational modernisation, including benchmarks on educational equality and governance capacity (G. L. Chen & Zhang, 2019; X. L. Li et al., 2020; Zhong & Wei, 2020). More precisely, in the study of X. L. Li et al. (2020), the capability of governance

was assessed with six indicators, three of which focused on school-to-school collaborations, such as the number of funds for the government to purchase the professional organisations' inspection and management. This research showed that educational equality and partnership between schools, governments, and third parties became critical benchmarks for evaluating educational modernisation. Therefore, in the efforts pursuing educational modernisation, education groups have been emphasised and implemented in a variety of settings.

5.5 Normative institutions and their influences

Individuals make decisions not only based on their rational calculations regarding benefits but also on their relationships with others and their own identities (R. W. Scott, 2010), which suggest that the appropriateness of their behaviours is considered (March, 1994; March & Olsen, 1989). R. W. Scott (2001) defined social norms as an element of institutions, called "normative institutions." Individuals emphasise the importance of the embeddedness of social and economic behaviours based on social norms (R. W. Scott, 2007). Therefore, individuals take these social norms as their internal obligations, and when they feel that they should do something as the norms require, they must also see these as their social responsibilities and expectations. When several people are required to follow the same social norms, they will express the same patterns of behaviour. In this study, the notion of normative institutions was adopted to explain the prevalence of education groups and I argue that some social norms may influence teachers' and principals' perceptions toward education groups.

Analysis of the interview data and documents showed that two social obligations drove the teachers and principals to introduce and improve their education group from the perspective of normative institutions. These social obligations included implementing

national policies and saving the rural and low-performing schools, thereby reducing school disparity.

5.5.1 The social obligation of implementing national policies

Following orders from the Central Government and its leaders is a popular and widely accepted perception of civic duty among Chinese people who have been influenced by the Confucius culture (Hwang, 1999). National policies, as the symbol of the Chinese Central Government's power, have the ability to compel the Chinese people to fulfil their social obligations (H. B. Yin, Lee, & Wang, 2014).

Since 2012, terms like education group and resource sharing have been used consistently in a variety of national-level educational policies. Therefore, these collaborative strategies could be regarded as essential preferences for the Chinese Central Government. Furthermore, in many provinces or cities, the education group has been identified as one of the primary methods for addressing school disparities. A new social background has been created wherein implementing education groups means fulfilling the national policy. As a result, while some teachers do not fully comprehend the significance of education groups, almost every teacher and principal agree that the implementation of education groups is a requirement of national policy and represents the expressed will of the Chinese Government (BG-S-01).

Based on these considerations, it is clear that developing education groups is one of the social norms for fulfilling the national policy. The interview data has echoed this argument. For example, several interviewed teachers and the two principals concluded that it is appropriate to recognise and enact national policy. One teacher proposed that "[i]t is right to implement an education group because many central and local

governments' policies have suggested and required education groups" (BG-P-01).

March (1994) suggested that according to behavioural logic, individuals first estimate the behavioural background and appropriateness of behaviours, then after these considerations will make behavioural decisions about what to do or not do. The importance of evaluating the social background of particular behaviours is that it will stimulate some social values and moral norms associated with this context, although external to the participants (Hall & Taylor, 1996). Social values and moral norms were termed as normative institutions as well by R. W. Scott (2001), as these values and norms influence individuals' judgements of how to do something right, thus influencing their behaviours (Hall & Taylor, 1996).

To summarise, for the benefit of the two schools where I undertook my research, the majority of interviewees, including the two principals, believed that it was their responsibility to fulfil the government's requirements by participating in BG Education Group. Therefore, it is argued in this section that BG Education Group has been created and further developed because of the social norms of fulfilling educational policy.

5.5.2 The social obligation of saving low-performing schools

Following the implementation of China's Open Reform Policy in China in 1978, Chinese rural areas began the process of urbanisation, which has had a notable impact on the growth of education (Ye, Zeng, & Wang, 2019). J. S. Hu (2010) indicated that urbanisation includes three stages: (1) expanding urban areas, which means cities are absorbing the original rural areas; (2) migrant workers are pouring into cities; and (3) migrant workers' children are entering cities. As a result, rural schools are facing a student shortage, which forces them to close or merge with other schools (X. Z. Fan, 2006). In

addition, under the impact of the urban-rural dual system[23], urban schools may have a conflicting mindset about rural students. On the one hand, the household registration system may allow urban schools to exclude rural students, while on the other hand, the urban schools may draw rural students due to their strengths (Qin, 2017).

Specifically, over the past four decades, Chinese cities have rapidly expanded their land size, and certain suburban areas have become urban areas. Two types of schools were established within these new urban areas; the schools originally in the suburban area now became urban schools, and real estate developers built new schools that were affiliated with the popular urban schools. However, all of these types of schools lack resources and student sources. As a result, these schools have registered poor educational results, and parents generally do not want their children to attend them.

Moreover, as a result of the introduction of the key school policy, the gaps between schools are becoming wider than ever (D. Q. Zhu, Li, & Song, 2017). However, after the implementation of the Chinese Education Law in 2006, the term key school was abandoned, in favour of a new term demonstration school *（示范学校）*[24], which is old wine in a new bottle. The problem of educational inequity was not addressed in the abandonment of key schools. A demonstration school with high educational standards will attract more attention from parents and greater resources from governments. In

[23] The urban-rural dual system was established in the 1950s in China (Y. N. Li, 2008), and it refers to a series of policies and institutional arrangements that distinguished rural and urban areas while giving priority to urban areas (J. Liang, 2011). The urban-rural dual system stifled the free flow of goods and services between rural and urban areas, resulting in unequal rights and opportunities for rural and urban residents (J. Liang, 2011). As a result, rural areas grew at a slower rate than urban areas (J. Liang, 2011).

[24] Demonstration school is a descriptive concept, which was adopted to describe a high-performing school in a district area or a school with a high reputation among local residents.

contrast, low-performing schools with inadequate educational standards, such as those schools in rural areas, are struggling to survive. The reason may be that all parents expect their children to attend demonstration schools rather than ordinary schools.

Chinese Governments have published several policies to solve this dilemma, such as school district housing *(学区房)* and nearby enrolment *(就近入学)*, but these have had few positive effects (Q. Cao, 2018; Ha & Yu, 2017) and pose new issues, such as educational and living segregation and class solidification (S. G. Yin, Hu, Ma, & Song, 2019). After these challenging investigations, the Chinese Government concluded that the potential solution to addressing school disparities was to transform all schools into high-performing schools. Therefore, the educational development value has shifted from achieving balanced growth to achieving high-quality and equitable development (X. W. Yang, 2014). As a result, in my study, the interviewed teachers and both principals agreed that supporting low-performing schools and reducing disparities between them is their social obligation. As mentioned by one of the principals, "*ZS School (a low-performing school) is still facing fierce competition to survive, and we should help them address this problem"* (BG-ZH-01).

An interviewed teacher explained how the education group addresses the problem of school choice:

> *The education group is a type of balanced development of education. The problem of freshmen's enrolment in primary schools has been solved. Parents are no longer required to purchase school district houses. For example, if you live in Chengbei（城北）, as required, your children should be educated in Chengbei Primary School, a member of the BG Education Group. Your children*

could enjoy the same resources and high-quality education as the students in BG Primary School. Therefore, the perception of school district housing（学区房）in Tongxiang is insignificant (BG-S-01).

Similarly, based on the policy documents' content, it seems that the education group has been viewed as a key approach for addressing school disparities and achieving equitable compulsory education growth by sharing resources. This statement was also echoed in interviews with participants and is referred to in the following by one of the principals:

The best educational resources were gathered within the education group, and these resources were shared within the participating schools, such as teachers, who are like water that flows between schools. Therefore, parents may achieve the same high educational quality, although their kid[s] was [were] enrolled in different schools. This result could reduce parents' practice of choosing schools for their kid[s]. By doing this, [the] education group could alleviate the supply and demand dilemma of access to high-quality schools (BG-ZH-01).

Parents' perceptions of low-performing schools shifted when their schools joined the education group. This shift meant that parents began to expect that their children in what was formerly seen as weak schools would receive a similar or even equally high quality of education to that provided in high-performing schools. Therefore, this could reduce the hesitation of parents who were reluctant to enrol their children in schools that had previously been regarded as low-performing schools.

The interview with the principal of one of the low-performing schools, which engaged in the BG Education Group, explained the process and possible reasons as to

how parents' perceptions have changed:

> *Originally, my school was located in a suburban area, while due to urbanisation, [such areas became] the places of urban extension largely, and then my school was regarded as located in an urban area. Thus, we have diverse student sources. This complex classroom composition may lead to the dissatisfaction of local parents because they would have the idea that those rural students may have bad habits in terms of learning and living. Consequently, these new urban schools, which were transformed from rural schools, were facing a lack of students. After joining the education group, we shared resources with the BG Primary School. For example, in 2014, we exchanged the grade six teachers with BG Primary School when their students graduated. About 10% of our teachers will exchange with BG. As a result, from 2014 to the present, there are no huge differences in teachers between BG and us. This huge improvement in the teacher makes parents believe that the gap between BG and us is no longer as large as before, and the parents are happy to send their kids to our school (ZH-ZH-01).*

This argument is also supported by some empirical studies in China. Education groups have been developed as an effective approach to addressing school disparities (Wu, 2018). For example, in an evaluation study in Shanghai, an education group was regarded as an important strategy to achieve balanced development by sharing resources within the collaboration, thus extending the opportunities for children to embrace high-quality education (Wu, 2018).

5.6 Cultural-cognitive institutions and their influences

Based on the institutional framework of R. W. Scott (2001), the cultural-cognitive institution is the third type of institution. Compared with the regulative and normative institutions, the influences of cultural-cognitive institutions on individuals are often unobservable because they operate through some cognitive schemas that people take for granted. To sum up, these three types of institutions provide three distinct mechanisms in the ways institutions influence the behaviours of individuals or organisations. The regulative institution forces individuals or organisations to make decisions or exhibit behaviours through a rational mechanism (R. W. Scott, 2001). The normative institution makes individuals or organisations perceive that they should do so through the expectational social mechanism (R. W. Scott, 2001). The cultural-cognitive institution makes individuals or organisations take for granted their behaviours by providing a set of orthodox and shared cognitive paradigms and behavioural schema (R. W. Scott, 2001). Thus, the influences of the cultural-cognitive institution are more consistent than the influences of regulative and normative institutions.

Through the analysis of the interview data and collected documents, this study found that two types of cultural-cognitive schemas, namely schema of educational equity and teachers' identity schema, influenced the development of the education group. Based on these two schemas, teachers and principals understood and interpreted the development of the education group.

5.6.1 The schema of educational equity and its influences

According to R. W. Scott (2001), institutional theory and educational reform influence school management and teachers' behaviours through high-stakes relationships

and social responsibilities, as well as cognitive schema. One of the main goals of educational reform is to achieve educational equity among schools, districts, and regions. Therefore, my study has termed it the schema of educational equity. By engaging the schema of educational equity, teachers will immediately judge the legitimacy of their behaviours. This study reveals that teachers have widely acknowledged that attempts to reduce school disparities and achieve educational equity will benefit from the construction of education groups.

The schema of educational equity refers to a set of knowledge and skills for achieving educational equity, which teachers acquire in their teaching practice and theoretical studies and which is constantly corrected and strengthened in practice. During past decades, the local education bureaus and school administrators have been required to ensure schools are providing equal and high-quality education to each student. In response, they have made substantial efforts to achieve this equitable provision. Thus, this study may infer that, while teachers and principals can have diverse interpretations of the schema of educational equity, almost all of them understand the fundamental connotation of this through learning and communicating with one another. There is a commonality concerning the acceptance of the educational equity schema among the majority of teachers.

More specifically, the schema of educational equity is directly linked to the implementation of education groups with three aspects: a balanced distribution of teachers and student resources, a balanced allocation of educational material resources, and a solution to the school choice dilemma.

First, there must be a balanced allocation of teachers and students as resources between schools. Many studies have shown that expert teachers and talented students are

two critical factors associated with educational quality (Y. Y. Chen & Feng, 2013; H. N. Wang, Cheng, & Smyth, 2018; Yao, Xu, Li, & Guo, 2021; Zhao, Pei, Feng, Cheng, & Jin, 2013). As a result, schools are keen to recruit more expert teachers and enrol more promising students, and parents want their children to attend a school with a high concentration of expert teachers and high-performing students. Therefore, in order to reduce school disparities and promote educational equity, high-quality teachers and excellent students should be evenly distributed among schools. Under an education group, two strategies were utilised to ensure a fair sharing of teacher resources: teachers were periodically mobilised between schools and details of this mobilisation are discussed in Chapter 6. The other strategy was to jointly recruit new teachers and then assign these new teachers to individual member schools based on their willingness and the matching of the teachers' skills and schools' needs.

Second, there should be a balanced allocation of material resources, such as instructional supplies, curriculum, and other school facilities. An education group closes the infrastructure gap between high-performing schools and low-performing schools by sharing the material resources between them. Many interviewed teachers provided their comments on sharing resources,

> *There is a chance we (BG School) need to teach an online class. We do not have this type of classroom due to the construction of the new teaching building. Thus, we borrowed the smart classroom from the ZS School, and our teachers can complete this task by using their facilities (BG-ZH-01).*

> *There is no teacher to teach two lessons of music in ZS School. Fortunately, in BG School, we have extra music teachers, and so we were able to send our music teachers to teach these two lessons. That is to say, teachers from these two*

schools can teach in each other's schools if there is a need (BG-ZH-01).

The interviews with other teachers revealed two reasons explaining why sharing could happen in these two schools.

First, as this study has mentioned, teachers are paid the same salary regardless of the schools in which they teach in the education group. A maths teacher in ZS School explains that *"according to the regulation of salary in an education group, no matter which schools the teacher comes to, they receive the same remuneration, such as the basic salary, the teaching quality allowance, the performance-based allowance" (ZS-ZH-01).*

Second, the close distance between ZS School and BG School (2.2 km) allows teachers to teach at both schools in a single day. Moreover, the courses could be scheduled over one whole morning or afternoon, and teachers would only need to teach once a week at that location.

Third, the construction of education groups would be a solution to the school choice dilemma. Parents choose key schools for their children by paying additional fees or using their social power, which is directly linked to their family wealth and connections. The issue is that only a few vacancies have been open in key schools or demonstration schools, despite the fact that most parents want their children to be educated in such schools. Meanwhile, only a limited number of parents can afford to spend additional money for school selection, and the vast majority of them do not have the means or ability to do so. These dilemmas may lead to social segregation among children from either high socioeconomic or low or medium socioeconomic status families (Dewulf, Braak, & Houtte, 2017; Kyriakides, Creemers, & Charalambous, 2019; Langenkamp & Carbonaro, 2018). Therefore, school choice has increased the gap between students.

An education group should be able to address the problem of school choice and this process is described in depth by one of the interviewed principals:

> *In BG Education Group, qualified teachers are required to mobilise between schools. After several years, there is no huge difference in teacher resources because it is impossible to say an expert teacher in BG School would immediately become an unqualified teacher in our school. Meanwhile, because of participating in the education group, we always have joint activities to foster teachers' development and students' learning. Thus, all different schools could share resources, such as our students taking a class in the BG School. Consequently, the boundary between schools in parents' minds becomes vague. Based on this consideration, parents could accept that their children are educated in the regular schools that have been participating in the education group and this addresses students' segregation (ZS-ZH-01).*

5.6.2 The teachers' identity schema and its influences

Teachers' identity is a complicated concept, but this study has adopted a descriptive approach to defining it as teachers' self-identification and self-perceptions. It is mainly about teachers' beliefs in teaching and being a teacher (Tsui, 2007). Therefore, teachers' identity is mostly concerned with answering "Who am I in this context?" (Beijaard, Meijer, & Vderloop, 2004). Teachers' identity schema shapes their understanding of their job and their views of what they should do. These new insights have a significant impact on the introduction of education groups.

As many studies have revealed, teachers' identity schema develops progressively as a result of their studying and teaching experiences (Beijaard, 1995; Dake, Spillane, &

Hufferd-Ackles, 2001; Enyedy, Goldberg, & Welsh, 2006; Helms, 1998). Within the same school, teachers' identities are often linked with the subject they teach, and their identities outside schools are always linked with the school in which they are working. Teachers are recognised by others based on the subjects they teach and/or the schools where they serve.

When the subject and the serving school are used as labels and paired with teachers, a new dilemma of "Who am I?" arises. The identity schema of teachers is that they have all thought of themselves as a teacher with a subject or school background. When I interviewed teachers, for example, the majority of them first told me they were mathematics teachers, English teachers, or teachers with other subject backgrounds. This identity schema creates a new perception for the teacher in that there is a specific job they can do, or else their identity will change. For example, an English teacher can teach English. Without a particular cause, teaching subject and teacher identity are inextricably linked. As a result, teachers would believe that their primary responsibility is to complete the task within the subject. Similarly, when teachers attend other schools, they will be introduced as a teacher from one particular school. In this case, the school the teacher works in is an identity label, which links to teacher identity.

This study finds that the implementation of the education group has created a new identity for teachers. According to the interview data, some teachers considered themselves to be both teachers of the education group and the school at which they are employed.

Teachers from BG School and ZS School have had many opportunities to work together because of the close collaborative relationships the BG Education Group has forged. Furthermore, the education group sets up a series of rules and regulations that

govern the implementation of the joint activities and tasks. Teachers from various schools collaborate under the guidance of the same education group regulations. In addition, influenced by the teachers' mobility within the education group, the majority of them have experienced working at two schools, except for novice teachers or those approaching retirement. Because of these two shifts, teachers began to see themselves as a teacher of the BG Education Group rather than a teacher of the working school. Two teachers expressed this identity shift during their interviews:

> *Because of teacher mobility, a teacher would think that now I am teaching in ZS School, but I will not always be a teacher in ZS School. However, I must be a teacher of the BG Education Group. For example, this year, you are a teacher in ZS School, while next year, you may be a teacher in BG School. Thus, teachers need to adapt to the uncertainty of his or her identity and make an adjustment (ZS-ZH-01).*

> *This is the natural circle culture of Chinese people. Just like you are from Jiangxi Province when you know people in Australia who also come from Jiangxi Province, you immediately become close. Similarly, when we participated in the BG Education Group, we became one of them (BG-P-01).*

A metaphor was frequently mentioned by many of the teachers and principals, namely, that the BG Education Group is a family and all participating schools are brothers in this family. The working relationship is seen by the teachers and principals as similar to a family relationship, and this is perceived as one that assists in the construction of the BG Education Group.

> *After we establish collaborative relationships, the BG Education Group*

becomes like a family, and all participating schools are the family members of equal standing in this family. Collaboration between schools broadens this family (BG-Y-01).

All the same, when you are participating in the BG Education Group, we are a family. Teachers' sense of belonging to the BG Education Group is getting stronger than before (BG-ZH-01).

Teachers have formed a compound identity. This compound identity schema benefits the planning and execution of BG Education Group. For example, quality teachers can more readily accept mobilisation between schools under the auspices of collaboration, and more easily exchange resources with other teachers from different schools within the BG Education Group (S. W. Xia & Yao, 2016). Therefore, there is a reciprocal relationship between the construction of education groups and teachers' identities.

5.7 Summary and commentary

In the discourse of Central Government educational policy, the construction of education groups has been considered one of the main strategies to address the problem of unbalanced development in schools and to achieve high-quality and equitable education. This study selects a typical type of education group as the research case, which includes a high-performing school and a low-performing school. In my case, ZS School heavily relies on BG School's resources and teachers to improve its educational quality. Meanwhile, this relationship has determined the governance structure of these two schools, with the BG School more inclined to control their collaboration with ZS School, since the principal of BG School is also the chair of the education group committee.

In the next chapter, I discuss the specific strategies for carrying out the education group, which the principals and teachers developed. Furthermore, I discuss how and why these strategies could be utilised.

CHAPTER SIX
Network Strategies Within the BG Education Group

6.1 Introduction

In Chapter Five, the formulation and developmental stages of the education group have been discussed in the Chinese context under organisational neo-institutionalism theory (R. W. Scott, 2001). These stages reveal the importance of the education group emphasised in the Central Government's educational policies (regulative institution), the social responsibility of reducing educational disparities and achieving educational equality (normative institution), and the local climate and economic conditions (cultural-cognitive institution), which worked as a combined force to lead the education group's emergence. Chapter Six moves to the second sub-question, which is "what kinds of network strategies have been initiated within the education group"? This chapter shifts its focus to the meso-level to indicate how the education group was implemented.

This chapter reveals four categories of network strategies utilised in the education group, including (1) Power resources (such as administrative power); (2) Reputation resources (such as the degree of social acknowledgment); (3) Human resources (such as teachers and staff); and (4) Material resources (such as curriculum, teaching materials, and facilities), which are consisted with the categorisations of S. Zhang (2017).

The following sections are arranged based on the above dimensions. Specifically, first discussed in this chapter are the strategies aimed at power resources, reputation

resources, human resources, and material resources. After this, the relationships between these four strategies, and how they could be adopted as combined strengths, are further explored.

6.2 Strategies for sharing and reconstructing power resources

Similar, power resources are the power of schools obtained through a particular structure and rules. This study reveals that two strategies have been utilised to implement the education group effectively to share and reconstruct power resources, namely, building a Tiao-Kuai integrating governance structure and applying standardised governance rules.

6.2.1 Building a Tiao–Kuai integrating governance structure

Tiao–Kuai integration is a concept from Chinese political science (Y. R. Liu, Chen, Huang, Zhang, & Yang, 2007; Z. D. Zhang, Yu, & Fan, 2006), depicts the operating structure of the Chinese Government. In this study, this concept is utilised to describe the governance structure in the BG Education Group because of similarities in construction between it and the Chinese Government system. Specifically, the Tiao-Kuai integrating governance structure has two critical components: the horizontal Principals' committee in the BG Education Group and the vertical governance relationship in each division across the member schools and the BG Education Group.

The horizontal governance structure (Figure 6-1) is similar to the *Kuai* structure in the Chinese Government system and mainly describes the principals' committee at the group level, including the existence of a Chief Principal and seven division principals. In 2015, a new policy was issued by the BG Education Group to demonstrate the structure

of the principals' committee and describe its roles and tasks and the power relationships between all member schools. The Principal of BG School was nominated as the Chief Principal of the BG Education Group and is responsible for its operation.

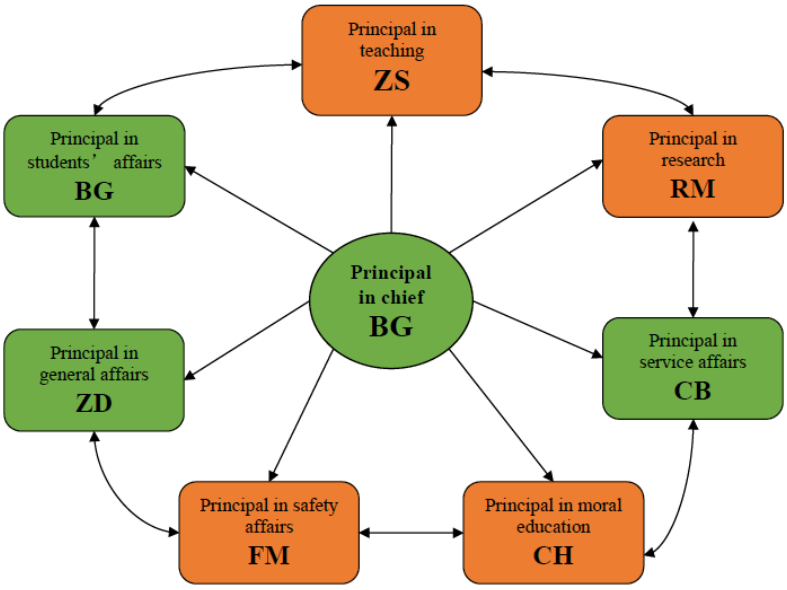

Figure 6- 1 The horizontal governing structure in the BG Education Group

Data source: Self-created

Furthermore, all education-related affairs are divided into seven divisions, and each has one of the school principals in charge. The principals for the seven divisions are also nominated as Vice-Chief Principals for the BG Education Group. The detailed roles of the principals in the seven divisions are listed as follows.

(1) The Principal of ZS School leads the teaching division.

(2) The Vice-Principal of BG School leads the students' affairs division. This is because the Principal of BG School is the Chief Principal of the BG Education Group.

(3) The Principal of ZD School leads the general affairs division.

(4) The Principal of FM School leads the safety affairs division.

(5) The Principal of CH School leads the moral education division.

(6) The Principal of CB School leads the service affairs division.

(7) The Principal of RM School leads the research division.

The Chief Principal and seven Vice-Chief Principals form the principals' committee of the BG Education Group. This principals' committee is the most powerful organisation within the BG Education Group, as empowerment of many of its critical rights has been supported by the local education bureau. For example, the principals' committee can make a decision about the distribution of teacher resources, set up new rules to regulate school management, and propose some collaborative events for teachers and students.

The main responsibilities of the Chief Principal are depicted in the education group document as follows:

> *The Chief Principal is in charge of the administrative tasks of the BG Education Group. The Chief Principal needs to operate the regular committee meetings to make decisions and guide member schools and the education group's development. For example, the Chief Principal and Principal committee respond to recruiting and allocating new teachers based on the needs of member schools and new teachers (BG Education Group, 2015).*

The above duties of the Chief Principal and the Principal committee were also echoed in the interviews conducted with the principals and teachers. The interviewees emphasised the Chief Principal's and principal committee's responsibilities for

coordinating resources and guiding the development of the education group. The following case of recruiting middle leaders appropriately illustrates the principal committee's roles and functions.

> *Each year, all vacant middle leader positions in each school will be posted in the principal committee meeting. Based on the agreement of all member schools, these vacant positions will be distributed after the meeting and then announced publicly. All qualified teachers from the member schools are eligible to apply for these positions. The principal committee will organise an employment interview at the group level after they have received teachers' applications. All qualified teachers from member schools are invited to attend this interview. The interview panel members are the expert teachers and leaders from all member schools. After an open and fair interview, the final winner will be selected and pointed to an appropriate position regardless of which schools they come from (BG-ZH-02).*

This study argues that the Chief Principal of the BG Education Group shares a similar role to the Chief Executive Officer (CEO) in Multi-Academy Trusts (MATs) in the United Kingdom. Constantinides (2021) revealed that the CEO should lead the direction of growth for MATs and play a vital role in reconstructing the governing structure to improve low-performing schools. This research is consistent with my study in that the Chief Principal plays a vital role in developing an education group. Nevertheless, this study indicates two levels of leadership for the Chief Principal, who leads the development of the education group and his school. Therefore, the Chief Principal should interact with officers of the education bureau, principals and teachers from the member schools, and teachers from his school. This finding resonates with the studies focused on

CEO leadership of MATs (B. Hughes, 2019, 2020).

The vertical governance structure is the *Tiao* structure in the Chinese Government system and describes the operational relationships of the seven divisions across BG Education Group and member schools. Figure 6-2[25] presents a simplified vertical governance structure in the teaching division. There are four points worth noting when exploring how this vertical governance structure presents its functions. First, the teaching-related activities are operated at the education group level and the school level. Second, the Principal of the teaching division is in charge of all teaching-related activities at the education group level rather than the school level. Third, the Directors of teaching, Group leaders of teaching research, and teachers must participate in the teaching activities at two levels. Fourth, although a vertical relationship is shown below in Figure 6-2, the Principal of the teaching division has no direct power to give administrative orders to teachers of the member schools. However, Directors of Teaching, Group leaders of teaching research, and teachers from all member schools should follow the teaching-related commands from the Teaching Division Principal, who nonetheless lacks formal administrative power.

[25] To simplify this picture, I have made two changes. The first is in the second layer, which should have seven divisions. Because this study is focused on teaching, I have provided the details only on the teaching division. Second, in the third, fourth, and last layers, there are seven schools, while this study collected data only from BG School and ZS School. Therefore, only the information from these two schools is presented in Figure 6-2.

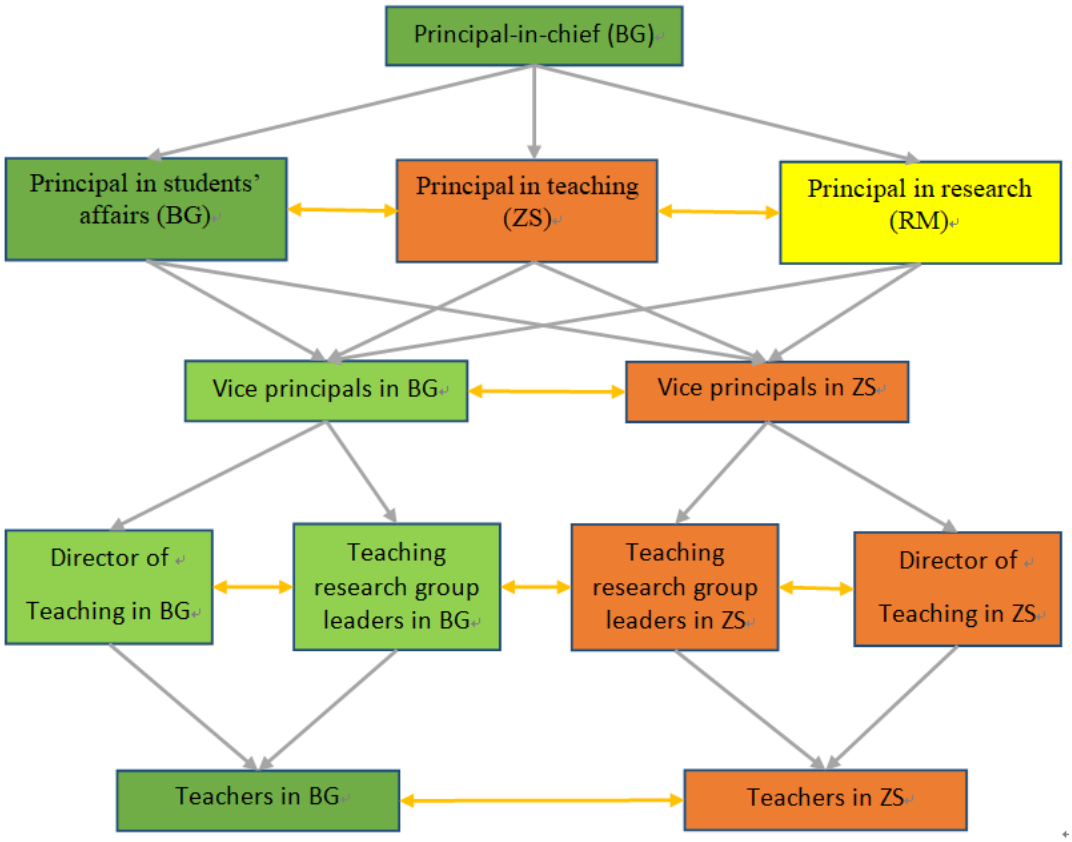

Figure 6- 2 The vertical governance (Tiao) structure in the teaching division

Data source: Self-created

This paradoxical power relationship between the Teaching Division Principal and teachers from the member schools may cause some negative influences. That is, requirements or commands issued by the Teaching Division Principal might be discounted. Sometimes, teachers negotiate with their principals to ask for flexible space to complete the education group's tasks. For example, when I interviewed the Director of the teaching of ZS School, she mentioned her hesitations and considerations:

> *The BG Education Group provides many activities, while some of them have limited benefits to our teachers and students. Thus, we need to select based on our needs and the positive effects of the activities. After we decided which activity we would launch or participate in, teachers would try their best to do it.*

As a result, we find that teachers' professional capabilities indeed have been improved. As to the activities that looked extremely boisterous but might result in limited positive influences, we should reduce or even stop them. The reason is that our teachers, students and the other objective conditions are different from those in BG School.

Our teachers [in ZS School] always compare themselves with the BG School teachers because we are in the same cluster. They often ask why the BG School does it, and we do not. As the principal and the director, we must have a very clear image that if ZS School is like a horse, it should be run on the right track with some flexible choices. We still have our space to make another choice. (ZS-Y-01)

The vertical governing structure differs from the hierarchical governing structure, although they may look similar. For example, the principals of member schools can negotiate in the principals' committee meeting to maintain their benefits. Similarly, the BG Education Group can provide teachers and middle leaders with discounts and revised requirements, which involve two aims. The first can be protecting member schools' interests, and the second is to revise the original plans of the BG Education Group to suit the practical fundamentals of the member schools.

In this study, the vertical and horizontal governing structures are integrated and combined as a network to ensure the effective implementation of the BG Education Group. The administrative power exerted in this integrating governance structure acted as the external force to improve the development of the BG Education Group. The research of L. Y. Zhang and Yang (2020) is consistent with the finding that collaborative activities could support teachers to fully develop their potential capabilities. Moreover, in their

study, Y. Wei, Luo, Lin, Yang, and Wang (2021) revealed the paths relating to how the collaborative events provided within the cross-school teaching research community were able to positively influence teachers. The first path concerns teachers sharing curriculum and pedagogical knowledge at collaborative events. The second path relates to collaborative events that could increase teachers' self-efficacy in teaching.

6.2.2 Standardisation of governing rules to regulate the education group

Another strategy for reconstructing power resources is the standardisation of governing rules in the BG Education Group. This was supported by the Chief Principal, who mentioned that "*[a]fter establishing the BG Education Group, the first thing we did [was] to standardise the governance rules on the group level (BG-ZH-01).*

As a result, a handbook on governance rules was published in 2015. This handbook covers the rules on the BG Education Group's constitution, performance-based salary payment rules, teaching assessments, teachers' research assessments, teachers' promotion, and rules for rewards. In total, 134 governance rules have been published to guide and regulate the implementation of the BG Education Group. This rule handbook further extended and divided all the rules into seven sections of management in 2016, such as daily administrative affairs, teacher management, and students' moral regulations.

These rules at the BG Education Group level can provide external support to ensure the implementation of collaborative teaching and learning events, offered by the group. Meanwhile, these rules might force teachers to comply with the relevant regulations to manage and control their behaviour. Two examples reported below illustrate the details regarding the influence of these rules.

The first example regards the rule on recruiting and allocating newly employed teachers within the BG Education Group. This rule demonstrates a clear process of selecting new teachers and illustrates the responsibilities of each participant.

In the summer semester (from March to July), each member school proposes its vacancies for new teachers based on subject needs or other considerations, such as diverse teacher gender in order to improve the characteristics of their schools or show willingness for new teachers. After that, all qualified teacher candidates participate in the paper-based exam held by the local education bureau and then face-to-face interviews, launched by the BG Education Group. After selecting the candidates who have passed all exams, the allocation of new teachers is discussed in a principals' committee meeting within the education group. The final step is that principals of member schools present their needs concerning the distribution of these new teachers.

This collective recruiting approach has two advantages. First, it can address the widespread criticism of the BG Education Group that every member school duplicates the development model of the high-performing school. The reason is that each school can decide their composition of teachers based on the characteristics of their schools. For example, the calligraphy course is a characteristic of BG School so more high-quality calligraphy teachers may be required than at the other schools. Meanwhile, ZS School has a good reputation for computer education, so the ZS School may need more teachers in this area than at the other member schools if they want to retain this expertise. The collective recruiting approach could address this special need. Second, the collective method also provides more opportunities for those new teachers to further develop their expertise. Then, the BG Education Group becomes a powerful platform to meet the needs of those new teachers on professional development. For example, a young physical

education teacher mentioned his considerations when choosing a school after he passed all exams.

> *I majored in martial arts during my undergraduate learning, while my prior principal asked me to teach football. Then, I told the principal that I have expertise in martial arts rather than football. Consequently, I came to my current school, and then I can give full play to my expertise. (BG-W-01)*

The second example is the rules on teachers' performance-based salaries and benefits. The income of Chinese primary teachers has two basic components, namely the basic salary and the performance-based salary, both of which are paid by the county's financial bureau (Y. Z. Hu & Yan, 2017). The level of the local economic development decides the basic salary. Therefore, there is no significant difference in the basic salary among schools, which are from the same district. On the other hand, the performance-based salary of teachers refers to the salary based on teachers' working outcomes, such as their teaching quality, rewards received during an entire year, or some other countable positive outcomes (Qin, Zeng, & Xu, 2019). There may be a significant difference in performance-based salaries across schools because they decide how to distribute these salaries. However, the BG Education Group requires all the member schools to utilise the same standard to allocate teachers' performance-based salaries. Therefore, this rule could ensure that all teachers from the BG Education Group receive a similar or even the same performance-based salary, based on the premise of consistent working effort.

This study argues that the above rule on teachers' performance-based salary indirectly reduces teachers' teaching pressures. The reason is teachers could have the same performance-based salary because of the same standard for allocating this salary in the BG Education Group. Moreover, according to this rule, teachers' performance-based

salary has no direct relation to students' exam scores. Consequently, teachers in the BG Education Group could easily accept the requirement of mobilisation among schools within the group. As the Chief Principal mentioned:

> *We also invite ZS School's teachers to teach courses for our students, for we lack professional and qualified teachers in a particular subject. For example, this semester, we do have not enough music teachers to teach a Grade Two class. The problem is that music is an extremely professional subject and the other subject teachers may not be suitable to co-teach. Fortunately, ZS School has a music teacher who doesn't reach the required teaching workload. Therefore, we invited this teacher to teach two lessons every Wednesday afternoon for us. The same salary rule makes this sharing possible. (BG-ZH-01)*

Greany and McGinity (2021) argued that building shared norms and values could influence the quality of schools in MATs. The authors further proposed four categories of MATs according to the level of norm standardisation and the highest level is labelled as "institution". In this study, the standardisation of regulating rules is a possible approach to constructing an institution, which acts as external support to reduce teachers' teaching pressures.

6.3 Strategies for sharing and reconstructing reputational resources

Reputational resources are defined as the reputation and recognition of schools, which are developed throughout the development of their long-term history (S. Zhang, 2017). This study indicates two strategies for sharing reputational resources: (1) Building reciprocal relationships between schools, and (2) Reinforcing the social impacts of the BG Education Group.

6.3.1 Building reciprocal relationships between schools

In this study, the two investigated schools have a significant gap in their reputational resources. In my interview with the principal of BG School, he introduced his school by describing its long history and renowned reputation:

> *BG School has a long history with over 100 years and good reputation in the local area. In 1980, this school was nominated as the county's key primary school. Currently, this is one of the largest schools in the county, and it has over 1,000 students (BG-ZH-01).*

Comparatively, ZS School has a relatively short history and a medium reputation in the local area. The principal of ZS School introduced his school as follows:

> *The ZS School was a rural primary school. However, the town has merged into the urban area because of modernisation, and ZS School has become an urban school at present. Although we are in an urban area, ZS School faces a student shortage because the local urban residents do not want their kids to attend our school. Therefore, our immediate concern is how to survive (ZS-ZH-01).*

Based on the interviews with the two principals, it seems that the schools' reputation is one of the important indicators to present its attractiveness to the residents.

The principals of these two schools believe they have equal status in the BG Education Group, although ZS School has a shorter history and lower reputation among the residents than BG School. During the interviews with both principals, they also repeatedly emphasised the importance of commonalities, rather than their

differences. Furthermore, based on these commonalities, the BG Education Group set up a common vision, which is to achieve "harmony with diversity"*（和而不同）*. This vision has been written in the constitution of the BG Education Group and works as a guide to the development of the education group.

Based on the interview with the Chief Principal, "harmony with diversity" has two critical meanings. The first is to emphasize the importance of building commonalities among the member schools because these schools are in the same education group. Except for the commonalities, the second point is that all member schools should develop their characteristics. For instance, the characteristics of BG School is the Chinese calligraphy curriculum, while characteristics in the other schools maybe cartoons, Roberts, or painting. Therefore, each member school could offer a special curriculum for their students. The BG Education Group is becoming a box, including seven special curriculums, which could offer to all students from the seven-member schools.

As all member schools have their expertise, they can build reciprocal relationships by engaging in sharing activities. Therefore, all students and teachers could receive benefits by interacting with each other. In this study, BG School is the high-performing school and ZS School is the low-performing school, while because of the vision of "harmony with diversity", ZS School does not purely rely on BG School's input. Conversely, teachers and students of BG School could receive benefits from their interactions with ZS School.

According to the above discussion, I argue that by constructing a common vision, the BG Education Group may find an effective solution to address the problem of school isomorphism and lacking the motivation to share resources.

According to the organisational neo-institutionalism theory, isomorphism depicts the situation of "startling homogeneity of organisational forms and practices" (DiMaggio & Powell, 1983, p. 148). The problem of isomorphism also happened in the development of school-to-school collaboration, which is depicted as the member schools imitating the developing model of high-performing schools (X. W. Yang, 2014). Based on the organisational neo-institutionalism theory (R. W. Scott, 2001), three mechanisms could explain school isomorphism. The first relates to coercive isomorphism caused by pressures from the dominant schools. These pressures concern member schools heavily relying on the input from dominant schools. This is because member schools collaborate and try to earn the acknowledgment of dominant schools. The second relates to mimetic isomorphism, which "appears when subordinate organizations model their responses to those of the dominant organizations" (Glazier & Hall, 1996, p. 47). In school-to-school collaboration, when member schools are facing uncertainty, one of the best strategies is to duplicate the behaviours or models of dominant schools. The last is a normative isomorphism, which "occurs when professionals in organizations have been socialized to view things in a similar manner" (Glazier & Hall, 1996, p. 48). In school-to-school collaboration, when shared beliefs and values have been established among the member schools, the dominant schools' models are easier to achieve. However, the member schools' isomorphism hinders the creativity of school-to-school collaboration. Therefore, it is important to prevent the problem of member schools copying the developing model of dominant schools (high-performing schools).

Puttick (2017) suggested two approaches to preserve differences between organisations: One is that organisations keep their competitive advantage, and the other is to reduce the connections between organisations. However, these two

approaches operate under the premise of preventing collaboration.

The development of the BG Education Group provides insight into addressing the problem of school isomorphism by constructing a common vision. The first desirable goal is to break the resource dependence between low-performing and high-performing schools and establish an equal and mutually beneficial relationship among these schools. To establish this reciprocal relationship, low-performing schools should develop their advantages to positively influence high-performing schools. Thus, the second is that low-performing schools should change their driving force of development from external to internal, which means they should focus on strengthening their capacities. Third, the education group should provide a flexible space for all member schools to develop their characteristics, rather than following a strict hierarchical order of homogeneous development, which is just acknowledge the model of the high-performing schools.

Further to understand the beneficial ways of interacting, Little (1990a) described three forms of collaboration based on the intensities and the continuum of dependence or independence. These models were further developed by Muckenthaler, Tillmann, Weiß, and Kiel (2020) and Gräsel, Fussangel, and Pröbstel (2006):

(1) Exchanging information and materials with colleagues requires teachers to work independently but share or exchange information and resources. This type is a low-level collaboration.

(2) Sharing work with colleagues requires teachers to have the same goals and contribute to the same tasks. This form of collaboration needs a high level of trust and communication between teachers and is a medium-level of collaboration.

(3) Teachers develop common knowledge and solutions to problems. This is a high level of collaboration that requires teachers to caste their autonomy to achieve the same goals.

Based on these features, this study argues that the BG Education Group operates at a medium-level of collaboration, which requires teachers to share practice and resources to achieve the same goals.

6.3.2 Reinforcing social impacts of the BG Education Group

Compared with the collaborative activities provided by the BG Education Group, activities developed by a single member school have smaller social impacts, such as gaining attention from fewer parents. Reinforcing the social impacts of the BG Education Group is an effective approach to increasing its importance and legitimacy. The collective activities, which are launched for all member schools, may reinforce the BG Education Group's social impact.

Based on the interview data, this study reveals three positive influences of implementing collaborative activities, which were developed by the BG Education Group.

Firstly, the collective activities could extend the social impacts of the BG Education Group. Second, by participating in the collective activities, parents could directly recognise the positive influences of BG Education Group on their children, and then acknowledge and rationalise the development of the BG Education Group. Finally, these collective activities require more wide involvement and then attract more social attention. These changes could increase the acknowledgement of the residents of the significance of the BG Education Group could then be widely acknowledged. There are some

persuasive examples to illustrate this point.

The first example is a collective activity for students, named "gifts for new friends"[26], which is created by BG School and became a collective activity for all member schools.

> *"Gifts for new friends" is our tradition, which is prepared for the Grade One students. Our original purpose was to provide a platform for these new students to make friends by sharing small gifts. However, parents always prepare so many gifts for their children, such as candies, cakes or some other snacks. Thus, even at the end of the semester, there are still many candies and biscuits in the classroom. It has caused the problem of waste. This is far away from our original purpose. Therefore, we started to negotiate with parents and asked them not to bring too many gifts to the school and proposed suggestions to guide them. In the beginning, some parents could not fully understand and did not accept these suggestions. To cope with the rejection from parents, we collaborated with ZS School and published a joint announcement to guide parents' behaviour. A few days later, the remaining five member schools also joined us to implement this guidance. Considering the positive influences, we reported it in our WeChat news. As a result, many residents started to accept this gift reform. Then, the city daily newspaper reported this reform and described it as a good case for altering old customs and habits (BG-ZH-01).*

[26] "Gifts for new friends" is an event hosted for the Grade One students when they are first enrolled. The purpose of this activity is to provide an opportunity for these students to make new friends when they have just enrolled in primary school. Parents prepare some small gifts or snacks for their children to bring to school and tell them to share these with their friends.

Another case is the joint military training for the Grade Five students.

We collaborated with ZS School to design this activity and developed specific plans. First, we started at the same time and the same pace. Second, we designed a show for students to present the training outcomes. Third, we invited parents of the two schools to attend this show. Finally, we decided that BG School's students walk to ZS School. During the walk, parents of ZS School can look at their kids and find that although ZS School is a low-performing school, their students are as good as the BG School students. Also, it is a good chance to introduce the teaching outcomes of the BG Education Group (ZS-ZH-01).

The third example is that the BG Education Group provides open lectures for parents to refresh their educational beliefs and values. The selected lecturers should meet two standards: (1) they are experts in family education; and (2) they have new thoughts on education and have the experience of giving public lectures. Moreover, the BG Education Group also designed a specific plan to implement these lectures. All lectures are recorded and uploaded online to a website, called the "parent school". Parents can watch these lectures on the Internet. One interviewed principal described the successful experiences that resulted from the first lecture:

This year, we developed a series of lectures for parents called "Tong Jia Yuan". We first discussed how to do it in the regular meeting of the BG Education Group. Then, we invited one of the best teachers who is an expert in family education. These lectures are organised fortnightly. The first lecture is taught by Mrs Xu,

who is a Superfine Teacher (特级教师)[27] *with extensive experience in family education. Because of the limited space, we only offer 200 face-to-face tickets. Parents could apply for tickets online. In just one minute, all tickets were sent out. Therefore, many parents could not attend because of the [unavailable] tickets. We recorded the lectures and uploaded them to the Tongxiang Online School, which our education bureau operates. After two weeks, parents could access this lecture through the online school. Parents were extremely welcoming of this lecture, and the Tongxiang Education Daily also reported on it. The popularity of these lectures is a kind of acknowledgment from parents towards the BG Education Group (BG-ZH-01).*

According to the above three examples, this study argues that the BG Education Group extended its social impacts by launching collective activities. Furthermore, to ensure the effectiveness of those collective activities, the BG Education Group has made detailed implementation plans and utilised technologies and social media to report those activities. More important, by engaging in those collective activities, the BG Education Group gains its acknowledgement and legitimacy from the participants, such as the parents and children.

6.4 Strategy for sharing and reconstructing human resources

Human resources were described by S. Zhang (2017) as the quality and quantity of

[27] Superfine Teacher (特级教师) is the highest honourable title of Chinese teachers.

teachers at all member schools. This study indicates that the BG Education Group mainly utilises teacher mobility to share human resources, aimed at distributing teachers evenly among member schools.

Teacher mobility depicts teachers moving from their current teaching school to the other school within the BG Education Group. To ensure the efficiency of teacher mobility, the education group published a series of rules to regulate its implementation.

First, it is an irreversible process, which means teachers cannot return to their original working school. For example, a teacher who originally worked at BG School, and was required to move to ZS School, after accepting this requirement and working for some years, this teacher cannot go back to the BG School.

Second, teachers are mobilising between the seven-member schools within the BG Education Group.

Finally, specific qualifications are applied to teachers, who are required to mobilise. Regarding the age requirement, a male teacher should not be over 55, and a female teacher should not be over 50. As for working experience, a mobilised teacher should have worked consistently in one school for over 12 years without any mobilising experience. Moreover, a mobilised teacher cannot participate in any administrative roles in their current (pre-mobilisation) school.

In relation to the procedures outlined for teacher mobility, the first step is that the Principals Committee discusses teachers' mobilising plan at the beginning of the summer vacation of each year. Then, the principals of the member schools propose their needs and negotiate with other principals. Once the mobilising plan has been confirmed, all

member schools are required to firmly implement it. Based on the interview data and the documents of BG Education Group, this study summarised the following detailed mobilising plan.

No. 1. For the first time, the new member school should arrange about 20-30% of its total teachers to mobilise within the BG Education Group. The second time, the number of mobilising teachers should be kept annually at 10% of the total.

No. 2. Teachers mobilise by grade, which means those from the same grade who meet the level of qualifications are required to mobilise. Considering this feasibility, it is always the graduate grade (Grade Six) teachers who are required to mobilise.

No. 3. Teachers' mobilising experience is one of the necessary conditions for a promotion. For example, working in at least two schools is a pre-condition for promotion to an intermediate professional position. Having teaching experience in rural schools for at least one year is required for an advanced professional position.

Based on the interviews, teachers and principals have different concerns about teacher mobility, although the BG Education Group has published a detailed and clear rule to guide the implementation of teacher mobility.

Considering the perspective of the Chief Principal, teacher mobility may involve contradictory roles. On the one hand, as the leader of the BG Education Group, the Chief Principal hopes that teachers are able to mobilise smoothly between all member schools and then achieve a balanced distribution in terms of teacher resources. However, on the

other hand, the Chief Principal is also the Principal of BG School and does not want her expert teachers to move to other schools.

Similarly, the Principal of ZS School (the low-performing school) also has his considerations and difficulties concerning teacher mobility. First, the Principal of ZS School is eager for the BG School teachers to mobilise to the ZS School, because BG School has a higher reputation than ZS School, and the BG School teachers could increase the acknowledgement and acceptance of ZS School after the BG School teachers mobilized to the ZS School. For example, the Principal of ZS School believes that the new teachers from BG School can change parents' negative attitudes regarding ZS School and encourage them to accept ZS School more appropriately as the principal discusses below:

> *After BG School's teachers mobilised to our school, parents' perceptions and attitudes have been changing rapidly. Parents believe that the teaching quality of BG School's teachers is better than ZS School's teachers. Normally, these new mobilising teachers will be arranged to teach Grade One, in the first year of primary school. This arrangement can make parents feel at ease sending their children to our school. Meanwhile, parents believe their children could receive a high-quality education because of teacher mobility (ZH-ZH-01).*

Another consideration for principals is how to support the mobilising teachers to adapt to their new teaching environment, although they agreed that there are no significant differences between these two schools, especially since both schools have engaged in the BG Education Group. However, teachers of these two schools hold opposite opinions. They believe that there are significant differences in many aspects between BG School and ZS School. For example, regarding the students' knowledge foundations and the

support from their families, this is much better at BG School than at ZS School. To some extent, ZS School's teachers are facing more difficulties. This is confirmed by a teacher who was mobilised from BG School to ZS School last semester:

> *The parents of ZS School's students would probably put less time into their children, for they need more working time than BG School's parents. Another difference is that our Grade One students are closer to like a white paper, which means they may have a weaker knowledge foundation because their parents did less work on the transition from kindergarten to primary school (ZH-W-02).*

As a result, BG School's teachers have a more negative attitude towards a move to ZS School, while ZS School's teachers regard the mobility to BG School as a special form of promotion. The possible reason is BG School has a better reputation than ZS School among the residents. For BG School's teachers, moving to ZS School is an administrative order that they must follow from their principal or a requirement of the BG Education Group. That is to say, external forces from the order of principal drive the mobility of BG School's teachers.

Moreover, teacher mobility may harm their interests, such as chances of promotion. A mathematics teacher with over 20 years of teaching experience, who mobilised from ZS School to BG School one year ago, was negatively influenced by mobility. This mathematics teacher cannot get a promotion at BG School because such a position is limited. Nevertheless, this teacher accepted the order to mobilise. Based on my interview with this teacher, this study argues that the reason he reached this decision was that his strong educational commitment encouraged him to obey the mobilising order from the former principal, regardless of his interests:

I can teach in every school. It is the same thing. (BG-P-01)

Similarly, another teacher from BG School is struggling with mobility problems because his children are educated in his current teaching school.

My two boys are studying in BG School, one in Grade Three and the other in Grade One. If I mobilise to ZS School, how about my kids? If my kids move with me, they need to adapt to new teachers and peers, and it would add pressure on them. The BG Education Group has considered this problem before, but now this issue has been ignored. This is our new rule on teacher mobility. If I can persist for six years until my younger boy graduates from BG School, then I do not worry at all. We have four teachers mobilised to ZS School this summer, and their kids are still [being] educated in BG School. I meet them to pick up their kids at night several times. This is a real problem. The previous rules took the teacher's life into account, while the current rules are just an order you must follow without any personal negotiations and considerations but everyone must comply with the rules. If my school requires me to mobilise next year, I have no choice except to obey the rule. (BG-SH-01)

To sum up, both principals and teachers have various considerations when mobilising teachers. For example, the principals may attribute the successful implementation of teachers' mobilising to the pressure of achieving balanced educational development or improving the reputation of schools. On the other hand, teachers may attribute their mobilising to their commitment to education or authority from the institution or the principal.

As for the influences of teacher mobility, this study divides this into four types,

which include positive and negative influences on schools and teachers.

First, the mobility of teachers could increase their working motivations. This is because when teachers go to a new school, they have to adapt to a new environment, which requires more effort. This argument is confirmed by a teacher who has experienced teaching in four schools:

> *Whenever I come to a new school, I feel that I need to be more active to adapt to the environment and the teaching. Thus, I will put more time and energy into my work. (BG-P-01)*

Second, the negative influence of teacher mobility on teachers is that it may change teachers' identity. The detail of this change will discuss in chapter seven. In this section, only one example has been presented to illustrate the change in teachers' identity.

> *Now, you are the teacher of BG School, and this identity may change next year. However, no matter which school you mobilise to, you are still within the BG Education Group. The teacher composition of one school is not stable because there are teachers who move out every year. An extreme example is that you and I are colleagues in BG School this year, and two years later, we will be colleagues again but in ZS School or the other schools. (ZH-ZH-02)*

Third, as has been mentioned earlier, teacher mobility may bring benefits from achieving a balance of teacher resources among schools and the management of teachers. Teacher mobility might support teachers to retain active attitudes toward work.

Lastly, the negative impact of teacher mobility on schools is that it may reduce teachers' commitment to their working environment as one of the teachers mentioned:

> *If teachers mobilised between schools, their affection for one school and the sense of belonging to one school would become weakened. I had a colleague who worked in a school for a long time. My colleague told his student your mother and father were my students, and now you are my student. This type of feeling is different because the relationships between teachers and students are continued by generations. However, after constructing the BG Education Group, this phenomenon has become history, because teachers are required to move between schools and their belonging to a particular school has been reduced (BG-SH-01*).

D. H. Li and Yao (2019) proposed an against conclusion that teacher mobility has no significant influence on the equal distribution of expert teachers. Moreover, it is hard to reduce disparities in teachers between urban and rural schools by utilising mobility (D. H. Li & Yao, 2019). In addition, the implementing experiences of teacher mobility developed by the BG Education Group could be a good reference for conducting teacher mobility in other approaches (C. T. Fang & Tian, 2019; Luo, 2019).

6.5 Strategies for sharing and reconstructing material resources

Based on S. Zhang (2017), material resources include different materials possessed by all member schools, such as teaching facilities, equipment, or curriculum resources. Two categories of strategies were implemented within the BG Education Group to share material resources. These strategies include those for students to learn at the other schools and others for teachers that involve sharing the curriculum and teaching resources.

6.5.1 Exam-free activity for students

The exam-free activity means students do not need to take the final exams of the summer semester but rather simply take some extra classes. This activity is provided to nominated students (from Grade Four to Grade Six) from all member schools.

Only one or two students from one class are selected to participate in the exam-free activity. By reviewing the documents of the BG Education Group, this study reveals that students are nominated through the following steps.

First, each teacher of each class nominates a student candidate; at the same time, the interested students apply for this chance and fill in an interest form; second, the headteacher assesses all the qualifications of the student candidates; finally, students vote publicly for the best-qualified students. Then, all the qualified students from the same grade do not need to take the final exam and participate in a special course prepared by one of the seven-member schools, and the course is based on the school's expertise. For example, the expertise of BG School is calligraphy education, and they provide calligraphy courses for those students participating in the exam-free program.

This study indicates that the interviewed principals, teachers and students from BG School and ZS School have positive attitudes toward this exam-free activity. The evidence is that it can broaden students' worldwide views, extend their knowledge, and further encourage their interests in learning. Moreover, during the group interview, students reported that this could be a good learning opportunity and a kind of honour. In addition, some of the students even mentioned that they were able to discover their weaknesses by undertaking this activity as discussed below:

Researcher: Do you know about the exam-free activity?

Student 1: Yes.

Researcher: Have you participated? What happened?

Student 1: Yes. We went to ZS School and had several interesting courses, such as the computer program and table tennis.

Researcher: How was the experience for you?

Student 1: I was very happy because I do not need to take the exam, and it was also a huge honour for me.

Student 2: It was my great honour.

Student 3: It was a great opportunity to know and learn in the other school, and I found there were many characteristics at the other school. We have broadened our horizons.

Students widely acknowledged the positive influences of exam-free activity. However, the problem concerns why the member schools agreed to provide this activity, considering its complexity and the huge associated costs.

This study further reveals some reasons to explain the above situation. First, high-quality education has been one of the influential concepts in Chinese education policy (T. Liu & Cheng, 2018b), and it is no longer limited to high exam scores, but rather includes students' all-around development (Q. X. Yang & Liu, 2020). Therefore, teachers are encouraged to shift their focus from the exam to developing students' characteristics. The

exam-free activity may achieve this goal by providing extracurricular courses to the best students from all member schools. Second, because of the new standardised rules for the assessment of teachers, they have access to larger and more flexible spaces for cultivating students' all-round development than previously.

This exam-free activity provides students with more chances to experience different teaching and learning environments and expand their horizons. Students can obtain some extracurricular knowledge because these courses are mainly based on the expertise of each school, rather than on the traditional subjects. Meanwhile, this activity also provides more opportunities for students to make new friends who may have the same interests. In the group interview for students, one student relayed her story:

> *My mother said I was like a small monkey who always moves. After I learned the calligraphy course at BG School, I became able to calm down and read well in my chair. In the past, my father used to laugh at me and said that there were nails in my chair. (ZH-ST-01)*

Similar to the shared education programme in Northern Ireland, this study also indicates that students who participated in collaborative activities at other schools were able to make more friends and regulate their emotions better (Duffy & Gallagher, 2017; Gallagher, 2016; Loader & Hughes, 2017a, 2017b).

6.5.2 Collective teaching activities for teachers

The BG Education Group provides two types of collective teaching activities for teachers to improve their teaching capacities: collective lesson preparation and collective lesson planning. The former focuses on preparing various types of materials for teaching,

while the latter aims at revising and improving teaching design and practice.

6.5.2.1 Collective lesson preparation

Collective lesson preparation is an activity, which is organised for teachers from the same grade with the same subject background. Collective lesson preparation is an important strategy in the BG Education Group for teachers to improve their instruction. Based on the related documents and the interview data, this study suggests that the collective lesson planning was conducted in four steps. The following is an example of how Chinese language teachers organise an activity in the BG Education Group.

(1) Teaching research group[28] leaders of the Chinese language from BG School and ZS School discuss the primary plan of implementing the collective lesson planning for one semester, such as selecting teaching contents, and distributing tasks distribution.

(2) All Chinese language teachers from the same grade at the two schools discuss two topics together. The first topic is how to allocate all contents to each teacher. The other is how to prepare a detailed lesson plan. In this meeting, teachers can voluntarily choose the particular content as they wish, and the time of submission.

(3) All teachers submit the prepared materials, such as the teaching PowerPoint, and the reading materials for students, to the online database for the Teaching research group leaders to have a double-check.

[28] Teaching research group is an organisation, which consisted by teachers who are from the same subject but may across various grades, aiming at investigating instructional issues (Y. Hu, 2012).

(4) Teachers download all related materials for their use.

In the mid-semester period, the Teaching research group leaders will check on the progress of teachers' preparation and remind those who may not be keeping up the pace. In this way, the Teaching research group leader responds to this activity and monitors the quality and progress of the participants who need to prepare one or more topics.

Several interviewed teachers reported their positive comments about this activity, such as its effect on reducing teaching workloads in preparing lessons. In addition, teachers could put more effort into conducting their research and investigating more deeply what they have prepared. Consequently, the quality and the efficiency of lesson preparation can be improved by working as a team, which is strongly supported by one of the teachers:

> *We are teaching with a new textbook this year. Thus, we have a huge workload in preparing the lesson because we have no experience in teaching it. Now, we have 12 teachers from two schools, and each of us needs to prepare five lessons in one semester by collectively preparing lessons. Therefore, this new lesson preparing strategy reduced teachers' workload significantly (ZH-ZH-02).*

Another benefit of collective lesson preparation is that teachers could exchange different perceptions and ideas, as one of the teachers explains:

> *I think everyone has their understanding of teaching a particular topic. We can exchange opinions by having collective lesson preparation. Two heads are better than one (ZH-W-01).*

6.5.2.2 Collective lesson planning

Collective lesson planning is defined as a type of teaching research activity, aiming at improving the effectiveness of instruction and teachers' professional development (J. Y. Li & Zhao, 2011). The particular approach of collective lesson planning is inviting the teachers with the same or similar subject background to discuss a particular teaching content or problem (J. Y. Li & Zhao, 2011). During the discussing process, the participating teachers could establish reciprocal relationships, address the teaching problems, and cultivate their self-reflection competence (J. Y. Li & Zhao, 2011).

This process of collective lesson planning occurs iteratively for three or more rounds. For the same lesson, this process may be repeated more than twice as described below:

> *A comprehensive diagnosis of one's classroom teaching. A process that teachers must go through in their professional development. (ZH-W-01)*

A complete collective lesson planning includes four steps.

(1) A teacher is required to design a primary teaching plan and nominated to teach an open lesson[29]. This teaching plan is discussed first with the Teaching research group leaders from the same school so as to identify any revision required.

(2) The polished first-round lesson is taken between the teachers from the same school. All participating teachers from the same school propose their suggestions to

[29] Open lesson is a form of classroom teaching in China, which characterise with colleagues could participate in the classroom. To some extent, it is like a type of teaching show.

improve the lesson. Based on these suggestions, the teaching plan is revised for the second time.

(3) The teaching plan (second edition) is taught openly again in another class. At this time, the same subject teachers from the different member schools are invited to attend, observe, and discuss this open lesson, which is the second polished one. During this process, all participating teachers from their schools and other member schools provide further comments on revising the teaching plan and improving it again.

(4) Based on suggestions from the polished second round, this open lesson is revised for the third time. Similarly, after the third revision, this open lesson is taught again. At this time, shortcomings in the teaching plan and the open lesson are reduced significantly. Finally, a high-quality open lesson is proposed after three revisions.

Teachers play various roles and functions within the process of polishing the open lesson. The Principals' Committee proposes a direction for the open lesson by communicating with other principals of the member schools in the regular meetings. The principal in the teaching division of the BG Education Group collaborates with the Vice-principals of each member school, who are in charge of teaching affairs, to propose a specific teaching plan. The Directors of Teaching and the Teaching research group leaders from different schools are those people who respond to the practical implementation of the collective lesson planning. For instance, the role of these people is to then nominate a teacher to teach the open lesson.

Meanwhile, all teachers involved in the same subject are invited to observe and discuss the open lesson and are required to provide suggestions for improvement. The participating teachers also play an important role by providing insightful comments and

suggestions to improve the open lesson. To sum up, the directors and the teaching group leaders then seek all possible external and internal resources to support the nominated teacher to implement and improve the polished lesson.

According to the interviews, this study indicates three motivations to explain why many teachers are passionate about engaging in lesson planning. Firstly, participating in collective lesson planning is a reciprocal duty for teachers because they have experience in teaching an open lesson and have received support from their colleagues. Meanwhile, it is a good professional learning chance for teachers to improve their teaching capabilities. Finally, engaging in an open lesson is a requirement of the school and the BG Education Group based on the regulations, as one of the new teachers explained:

> *The participating teachers may comment on your teaching design and teaching process and the other aspects, such as your teaching voice, your interactions with students, and even your emotional communications with students. Every teacher has a different focus and concern from various perspectives. Some teachers may focus on the teaching process, while some may care about your body language. That is all fantastic. (ZH-W-01)*

Indicated in Little (2002) study, three conditions as to how teachers' collaborative activities can succeed: teachers' interdependence, learning opportunities, and sharing of resources. Collective lesson preparation and collective lesson planning provide more learning opportunities and reduce teachers' workloads by sharing resources. However, in the minds of the majority of teachers, they still regard themselves as individuals and lack interdependence. As Czander (1993) and Siskin (1994) argued, teachers' consciousness formulates a boundary for them, preventing their collaborations across schools. Therefore, the collective activities in the BG Education Group should support teachers to change the

focus of their consciousness from the individual to the collective so as to better establish interdependence between teachers (Tong, 2004). More importantly, according to the network governance theory (Sørensen & Torfing, 2005), the benefits of participating in the collective activities, such as sharing resources, and reducing workload, are the direct motivations of teachers' engaging in the BG Education Group.

6.6 Building network legitimacy in the education group

The above four strategies are interdependent in implementing the BG Education Group and work as a synergy to build its network legitimacy. Moreover, these four strategies work at the level of schools and teachers to present their influence. These detailed relationships are depicted in Figure 6-3 below.

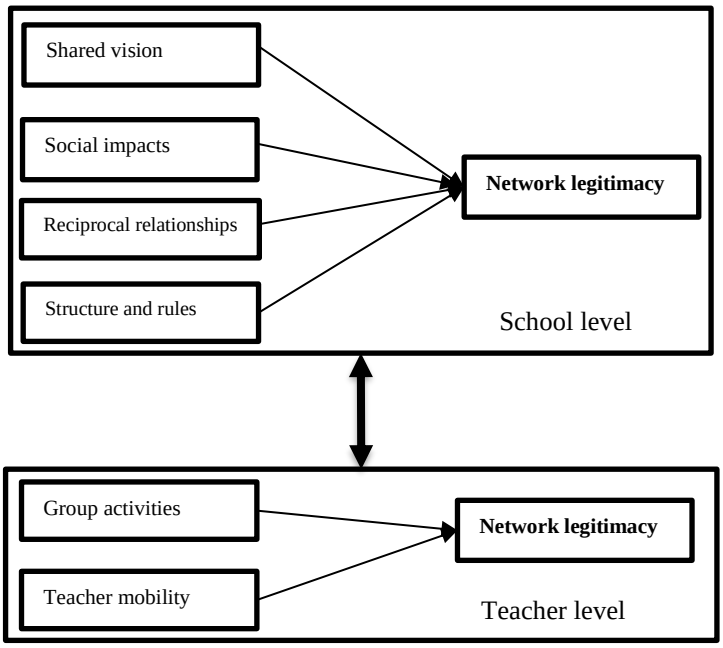

Figure 6- 3 Building network legitimacy in the BG Education Group

Data source: Self-created

According to the organisational neo-institutionalism theory, legitimacy is critical for

organisational development and even determines the organisational structure and developing strategies (DiMaggio & Powell, 1983; J. W. Meyer & Rowan, 1977; Tollbert & Zucker, 1996). However, compared with the ample research on organisational legitimacy, Provan et al. (2008) were critical about network legitimacy seldom being researched.

Suchman (1995, p. 574) defined network legitimacy as "a generalized perception that the actions of a network are desirable, proper, or within some system of norms, values, beliefs, and definitions". Human and Provan (2000) further developed the concept of network legitimacy, seeing it as having three levels: network-as-form, network-as-entity, and network-as-interaction.

The legitimacy for network-as-form refers to legitimising the network itself because the network is different from organisations, which the form of a network need to legitimise. According to Provan et al. (2008, p. 126), there are three propositions concerning network-as-form legitimacy.

(1) When regional or sector-wide diffusion of networks is low and unsuccessful, the importance of building legitimacy for the network-as-form will increase, while when the diffusion of networks as a form of organizing in a particular sector or region becomes commonplace, the importance of build legitimacy for the network-as-form will decline.

(2) During the formation of the network, the legitimacy for network-as-form will increase, while when the network becomes mature, the importance of legitimacy for network-as-form will decline.

(3) When the network emerges from a crisis during the network's maturity period, the legitimacy of network-as-form needs to be re-established.

This study has confirmed the first and second proposition that the diverse background of schools made it important to establish an education group because each member school can learn from each other. Meanwhile, the education group is a new form of school-to-school collaboration, which requires a rationale for its legitimacy.

The legitimacy for network-as-entity refers to the legitimacy challenges for network goals, structure, and governance, which belong to the network's domain (Human & Provan, 2000). Provan et al. (2008, p. 130) further proposed two hypotheses on legitimacy for network-as-entity.

(1) If a separate or unique administrative organization governs the network, the legitimacy for network-as-entity will increase, while if the network is self-governed, the legitimacy will decline.

(2) In the early stages of network evolution, the need to build legitimacy for network-as-entity will be most critical, while in the mature stage of the network, the need for building legitimacy will decline.

The Principals' Committee as a separate organisation, which is in charge of the affairs in the BG Education Group, increases its legitimacy of network-as-entity. Similarly, as mentioned before, the BG Education Group is in its early stages. As a result, it is critical to work hard at building legitimacy for network-as-entity. Moreover, this study has indicated that because the member schools have built a strong trust and developed a network identity, the legitimacy for network-as-entity has improved

significantly.

The legitimacy of network-as-interaction establishes the legitimacy of cooperative interactions within a network (Provan et al., 2008). Cooperative interactions are one of the critical differences between a network and a single organisation. Therefore, legitimising network-as-interaction is the key point to success. Otherwise, the network would have failures. Provan et al. (2008, p. 132) proposed three approaches to building legitimacy for network-as-interaction.

(1) When network composition is relatively homogeneous and competitive, the legitimacy for network-as-interaction will increase, while when network composition is relatively heterogeneous and non-competitive, the legitimacy will decrease.

(2) During the early stage of network evolution, the need to build legitimacy for network-as-interaction will be greatest and will continue to be moderately important into the maturity of the network.

(3) The legitimacy for network-as-interaction will be greatest in the self-governed network, which has established equal relationships among the member organizations, while the legitimacy will be weakest in the network that has a dominant organization.

Different to the first approach, this study has found that a combination network composition builds the greatest legitimacy for network-as-interaction for two reasons. First, the homogeneous composition of the BG Education Group can develop a high trust among member schools, which is important to ensure its implementation. However, the

pure homogeneous relationship may increase the crisis of isomorphism between schools. For example, the ZS School imitated the school culture and management model of the BG School and consequently, these two schools share large similarities and the ZS School cannot develop its own characteristics. Second, the BG Education Group emphasises the differences between all member schools to receive benefits to the largest extent from the interactions.

This study also confirms the third approach. All member schools have equal status, although there are high-performing and low-performing schools, and the latter relies more on the former. The equal relationship between member schools is a critical support to ensure the effectiveness of cooperative interactions.

6.7 Summary and commentary

This chapter explores the four strategies, aiming to share and construct power, reputation, human, and material resources in the BG Education Group. After indicating the specific strategies relating to these four types of resources, the interdependence relationships are further explained in this study. Moreover, this study discusses building network legitimacy based on these strategies at the levels of teachers and schools.

Besides the findings offering a theoretical contribution concerning network legitimacy, the implementation of the BG Education Group and the strategies used influence teachers. Therefore, the next chapter will answer the third research question, focusing on teachers' growth and exploring the influence of the BG Education Group on teachers.

CHAPTER SEVEN
Teacher Changes in the BG Education Group

7.1 Introduction

Chapter Six explored how the BG Education Group was implemented by indicating several network strategies to share resources, which covered power, reputational, human, and material resources. Specifically, to share power resources, the BG Education Group built a horizontal-vertical, integration governance structure and standardised the governance rules. To strengthen and share the reputational resources of all member schools and the BG Education Group, the strategies of building reciprocal relationships and reinforcing the social impacts of the BG Education Group were introduced. By requiring qualified teachers to mobilise among member schools, the BG Education Group was able to share human resources among all member schools. Furthermore, the BG Education Group provided different collective activities to share material resources, such as the exam-free activity for students, and the collective lesson preparation and collective lesson planning for teachers.

This chapter tries to answer the third sub-question: "which aspects of teachers have been facilitated by the education group?" As this study revealed in chapter six, the implementation of the BG Education Group has a comprehensive and holistic influence on teachers. Clarke and Hollingsworth (2002) depicted teachers' changes in four domains, which is consistent with the findings of my study. Therefore, to demonstrate teachers' changes under the influences of the BG Education Group, this chapter adopts the categorisation of teachers' change of Clarke and Hollingsworth (2002), the details are as

follow:

(1) The personal domain refers to teacher change regarding their knowledge, beliefs, and attitudes.

(2) The practical domain refers mainly to teacher change in their professional experimentation.

(3) The external domain includes the sources of information, stimulus or support, which provide support for teacher change.

(4) The domain of consequences refers to the salient outcomes of teacher change, such as teacher control, and student motivation.

The following paragraphs are arranged based on teachers' changes in these four domains. Thus, this study first discusses teachers' change in the personal domain, continues with change in the practical and external domain, and finishes with changes in the domain of consequences. Moreover, this study further explores the relationships of professional change in the four domains.

7.2 Teacher change in the personal domain

The personal domain of teacher change includes teachers' growth in knowledge and changes in their beliefs and attitudes (Clarke & Hollingsworth, 2002; Guskey, 1986). This study indicates that the BG Education Group influences teachers' beliefs and attitudes in two aspects: (1) refreshing teachers' beliefs and attitudes toward the BG Education Group and then supporting teachers to accept and join the education group, and (2) changing teachers' beliefs and attitudes toward themselves by developing new identities. Reversely,

the changes in teachers' beliefs and attitudes can facilitate the implementation of the BG Education Group. The details are reported in the following sub-sections.

7.2.1 Teachers develop a collective identity

This study argues that teachers developed a collective identity that was influenced by the BG Education Group. Before participating in the BG Education Group, teachers regard themselves as the teacher of a particular school, which is defined as the institutional identity (Gee, 2001). However, along with the involvement in constructing the BG Education Group, teachers' institutional identity has been challenged. As a teacher mentioned, his institutional identity has become ambiguous.

> *The BG Education Group has strong influence on teachers. It has changed teachers' self-concepts. For example, a teacher is working in ZS School at present, though they would not be regarded as the teacher belonging to ZS School, because they may mobilise to the other school tomorrow. However, no matter which school they are working in, they must be teachers in the BG Education Group. We can confirm this. Teachers begin to adapt to this change of institutional identity (ZS-ZH-01).*

According to the statement of this interviewed teacher, it seems that he has developed a new identity, which is illustrated as teachers regarding themselves as members of the BG Education Group rather than a particular school. Cerulo (1997) defined this teachers' new identity as the collective identity. In this study, the collective identity describes teachers' accepting their roles and importance within the education group and regarding themselves as to its members. Moreover, the collective identity depicts "teachers' convergent beliefs about the BG Education Group's central, enduring,

and distinctive attributes" (Hardy, Lawrence, & Grant, 2005, p. 61).

This study argues that influenced by the BG Education Group, teachers and principals have formulated two identities: (1) institutional identity, which belongs themselves to a particular school, and (2) collective identity, regarding themselves as member of the BG Education Group. These two identities may have influenced teachers' attitudes toward the BG Education Group and their behaviours.

For example, teachers' institutional identity functions as a label that reminds teachers who they are, address the conflicts between themselves and others and protects their benefits. As this study has mentioned in Chapter Six, the Teaching research group leaders should consider the appropriateness and effectiveness of the collective lesson preparation and collective lesson planning in their schools provided by the BG Education Group. Furthermore, the Teaching research group leaders will revise the arrangement of collective lesson preparation and collective lesson planning to meet the requirements of their schools, if there is a conflict between their schools and the BG Education Group.

The Chief Principal of the BG Education Group is another example. As part of his institutional identity, the Chief Principal of the BG Education Group directed and prioritised all his endeavours to improve the quality of his school (BG School) and promote its reputation. In relation to the Chief Principal's collective identity, his critical tasks sought to support the low-performing schools and reduce disparities between member schools. Therefore, the Chief Principal should find a balance between the interests of the BG School and the BG Education Group based on his two identities.

Teachers are influenced by their institutional identity. They are more likely to share teaching-related materials or professional opinions when they participate in collective

activities, such as collective lesson planning, with their former colleagues. Moreover, many interviewed teachers agreed that the BG Education Group provides several learning opportunities and resources to support them. A possible explanation for this is that teachers' collective identity influences their reactions towards and interpretations of organisations (the BG Education Group) (Elsbach & Kramer, 1996; Gioia & Thomas, 1996). This finding is consistent with the research of Dutton, Dukerich, and Harquail (1994) and Gioia and Thomas (1996), which indicated that positioning individuals within an organisation were influenced by personal beliefs toward the organisation.

On the surface, it seems that institutional identity and collective identity are opposite forces working to pull teachers' and principals' self-concepts apart, while their actions and behaviour are influenced by these two identities. Thus, there is a negotiating or regulating mechanism that operates between the institutional identity and the collective identity.

In addition, teachers and principals also utilised the family metaphor to describe their collective identity in the BG Education Group and to depict the relationships among teachers and schools within the BG Education Group.

> *We are a family after you [have] engaged in the BG Education Group. The schools within the BG Education Group are like brothers and sisters with intensive relationships (BG-ZH-01).*

> *After constructing the BG Education Group, I feel my family is larger than before because the member schools are the family members, and all of them have the same status (BG-Y-01).*

The family metaphor describes a new relationship between the BG Education Group and the member schools, which is blurring the boundaries between them. Also, because of implementing the teacher mobility strategy and the emphasizing on the equal status among all member schools, teachers and principals used the "family member" to depict their relationships with the people from the member schools and the BG Education Group. These changes in the relationships and their perceptions toward the BG Education group may lead to a change in the relationship between the institutional identity and the collective identity. Beauchamp and Thomas (2009, p. 177) explained this change as that "identity is connected with how collective discourses shape personal worlds and how individual voices combine into the voice of a community", so the nature of identity provides a possibility of connecting institutional identity and collective identity, and then producing a synergetic force.

In addition, Y. Y. Yang (2008) utilised the concept of "categorisation" to depict the change of individuals' membership from individual to the organisation, according to the social identity theory (Tajfel & Turner, 1986) and self-categorisation theory (J. C. Turner, Hogg, Oakes, Reicherand, & Wetherell, 1987). Research undertaken by Y. Y. Yang (2008), suggests that teachers and principals could connect their institutional identity and collective identity by using categorisation, for example, the BG Education Group develops the strategy of teacher mobility, inviting teachers to engage in the collective lesson preparation and collective lesson planning.

More importantly, this study adopts the theory of Guanxi (关系) to illustrate the participants (teachers and principals) adopted the discourse of family to describe their professional relationships. Guanxi is an indigenous concept that is different from relationships and is widely accepted by sociologists and anthropologists (Bian, 1994; Y.

X. Yan, 1996; M. H. Yang, 1994). Guanxi views the individual as a member of a community that is a network of familial, hierarchical, and friendly relationships. There is a particular emphasis on tacit mutual commitments, reciprocity, and trust, all of which serve as the foundations for Guanxi and Guanxi networks. Chinese people are accustomed to standing firm in their position to describe interpersonal relations, which are categorised into three fundamental types: family members, acquaintances, and strangers. Fei (1998) created a concept of the pattern in a different sequence (差序格局) to depict the sequence of these three interpersonal relations. In this sequence, family members are the closest to the person, while strangers are distant. Teachers and principals use the family metaphor to express that they have built a new Guanxi in the BG Education Group, which is much closer than a working relationship.

According to the analysis of Y. Y. Yang (2008), this study argues that Guanxi within the BG Education Group has the following three characteristics, which are to:

(1) regulate teachers' and principals' roles. For example, principals and some middle leaders from the member schools are working in the BG Education Group, and all teachers are required to actively participate in the collective lesson preparation and collective lesson planning provided by the education group;

(2) encourage teachers and principals to develop trust and take their responsibilities from the BG Education Group. For instance, because of the construction of the BG Education Group, the participants regard them as family members. In this study, Guanxi is evident through teachers and principals supporting their colleagues by sharing resources or providing guidance;

(3) Guanxi is a self-centred network, which means teachers and principals construct their Guanxi based on the closeness of the relationships.

To sum up, this study indicates that the implementation of the BG Education Group supports teachers and principals in developing a collective identity. Reversely, the formulation of teachers' and principals' institutional identity and collective identity could foster the development of the BG Education Group. This study further adopts the theory of Guanxi to depict the process of how the teachers and principals connect institutional identity and collective identity by constructing family membership between member schools.

7.2.2 Teachers share the same collective goals

Influenced by the educational policies to reduce educational disparities, teachers agree with the belief that the ultimate goal of running education groups is to improve low-performing schools' educational quality and reduce disparities among schools (X. W. Yang, 2014). By analysing the documents on the BG Education Group, this study suggests that the constitution of the BG Education Group, guiding its development, clearly demonstrates the final goal in four statements (BG Primary School, 2015).

(1) Expanding educational resources to meet residents' needs for high-quality education.

(2) Promoting the level of balanced development of education.

(3) Improving educational efficiency.

(4) Promoting the overall quality of teachers.

Due to the influence of the constitution, teachers widely accept the belief that operating the BG Education Group is to narrow educational gaps between schools and achieve equity within the district. Many interviewed teachers and principals

acknowledged the importance and emergence of reducing disparity among schools.

> *The establishment of the BG Education Group is a good strategy to reduce educational gaps between schools. The problem of disparity is indeed worth our full attention. (ZH-W-01, BG-P-01, BG-ZH-01)*

Two factors support teachers to share goals. First, it seems that contextual factors, such as the system requirement of the BG Education Group, will influence teachers to have shared goals. For example, there is a rule in the institutional book of the BG Education Group that clearly states a shared goal of implementing the BG Education Group, which is providing more high-quality educational resources by reducing school disparities and improving the quality of low-performing schools (BG Primary School, 2015). Second, this study argues that teachers' motivations for engaging in the BG Education Group, and the formulation of collective identity, have a positive impact on constructing shared goals. For example, the initial motivation for many teachers to engage in the BG Education Group is to improve their professional capabilities. Moreover, this study's finding in this respect is supported by the research of Prenger, Poortman, and Handelzalts (2021) who argue that teachers can balance their motivations and organisational goals after engaging in the activities that are provided by education groups.

According to the interview data, when teachers accepted the shared goal of the BG Education Group, they were more deeply engaged in the collective lesson preparation and collective lesson planning activities, provided by the BG Education Group. Consequently, these teachers exhibited a higher level of collaboration, such as resource sharing with teachers from member schools within the BG Education Group. This positive effect of sharing goals is consistent with the findings of Andrews and Lewis (2004) and Katz and Earl (2010) in that when teachers share goals, they are more likely to share individual

resources. Similarly, experimental research has revealed positive associations between the shared goals and the level of collaboration (Mitkidis, Sorensen, Nielbo, Anderson, & Lienard, 2013), which is consistent with this research.

7.3 Teacher change in the domain of practice

The domain of practice is primarily concerned with the professional experimentation of teachers (Clarke & Hollingsworth, 2002), which includes teaching experience, concerns, and interactions with students. According to the interview data, this study has discovered that teachers' concerns in teaching and interactions with students vary based on their teaching experience. Thus, according to teachers' teaching experiences, teacher change in the domain of practice is classified into two categories: novice and experienced teachers.

7.3.1 Novice teachers

Novice teachers are those who have less than five years of teaching experience (Ingersoll & Strong, 2011) and these types of teachers are vital participants of the BG Education Group. Due to novice teachers' lack of teaching experience and practical knowledge (Clandinin, 1985), they are eager to acquire or learn practical skills or strategies that they can immediately and directly apply in their classrooms. Therefore, when engaging in collective activities of the BG Education Group, novice teachers are hoping to learn specific teaching skills or strategies that they can apply to solve their problems. For example, one of the prevailing problems encountered by Chinese novice teachers is maintaining discipline and authority in their classrooms (G. B. Fang, P. W. K. Chan, & P. Kalogeropoulos, 2021c). Therefore, novice teachers who participate in collective lesson planning pay close attention to how other teachers address the issues of

discipline and authority. Once novice teachers have identified an appropriate strategy, they will incorporate it into their teaching practices.

A young physical education teacher expressed his satisfaction with his improved skills after participating in the BG Education Group collective activities.

> *I have learned many skills in the curriculum structure and the arrangement of the teaching process. Meanwhile, my organisational ability has been dramatically improved (BG-W-01).*

My data have shown that novice teachers viewed themselves as learners rather than experts when they participated in the BG Education Group's collective activities. It seems that novice teachers bring a checklist of the challenges they are facing on. Then, while observing the open lesson, novice teachers compared themselves to other teachers in order to cross-check their checklists, especially when others offered examples of ways to address these challenges. For instance, this study reveals that novice teachers consistently reflected on how other teachers interacted with their students if they were having difficulty interacting with students in their classrooms.

My study is consistent with the research of Kozikoglu (2017) and Silva, Farias, and Mesquita (2021) in that classroom management is a critical challenge for novice teachers. Moreover, this study echoes the finding that collaborating with colleagues, particularly expert teachers, is an effective strategy for assisting novice teachers to overcome these challenges (Wolff, Jarodzka, & Boshuizen, 2021).

7.3.2 Experienced teachers

In this study, experienced teachers are defined as those with more than five years of

teaching experience. In comparison to novice teachers, experienced teachers have a great breadth of experience and a greater professional vision (G. B. Fang, 2014). For instance, experienced teachers assess whether or not their teaching goals have been met. They seek to ensure that their teaching content has been enhanced as a result of interactions with students, and are aware of when their teaching practices have elicited positive emotional responses from students (G. B. Fang, 2014). These distinctions explain why experienced teachers within the BG Education Group have various concerns.

It has been found in this study that experienced teachers are more concerned about employing certain student-based teaching skills, such as encouraging students to regulate their learning as well as showing concern for their needs and cultivating students' creativity and imagination. For example, I interviewed a mathematics teacher who teaches algebra in Grade Three, who was thinking about how to organise his current content in order to connect it with the next semester. This mathematics teacher could teach holistically because of his extensive experience in teaching primary school mathematics and familiarity with the connection between the contents of two semesters. The collective lesson planning provided by the BG Education Group works as a platform for all participating teachers, and then the novice teachers could learn from the experienced teachers on how to support students' learning with logical connections.

In my study, another vital concern for experienced teachers who participated in the BG Education Group's collective activities was that they had a greater need for educational theories to guide their daily teaching than novice teachers. According to another interviewed teacher, she gained profound insights to deepen her understanding of teaching theories from the collective lesson planning, which was based on her individual experiences and knowledge. Therefore, the BG Education Group actively supported

experienced teachers in testing their teaching experiences and may develop their teaching theories.

During the collective lesson planning activity held by the BG Education Group, experienced teachers regarded themselves as doctors who responded by diagnosing shortcomings or problems with other teachers' teaching styles and then offering suggestions for improvement. An interviewed teacher explained why experienced teachers assist the other participating teachers without compensation:

> *It is a duty for me because when I was a young teacher, my colleagues helped me. It is our tradition to support young teachers' professional development (BG-W-02).*

This study confirms the findings of Koni and Krull (2018), who found that novice teachers prefer to acquire short-term skills, such as direct strategies they can apply in their teaching, while experienced teachers favour acquiring more long-term skills and student-based strategies, such as how to cope with students' uncertainty in the classroom. Perhaps this is because novice teachers prefer to participate in the sharing activities, whereas experienced teachers are more likely to discuss activities (Mahmoudi & Ozkan, 2015).

7.4 Teacher change in the domain of consequences

The domain of consequences refers to "salient outcomes" for the teachers and students (Guskey, 1986), implying that "the outcomes were salient to teachers' teaching" (Clarke & Hollingsworth, 2002, p. 953) in terms of teacher control and student motivation. Moreover, these outcomes are intrinsically linked to teachers' teaching values and are derived from classroom practice (Clarke & Hollingsworth, 2002). Thus, this study also

assesses the two-fold influences of the BG Education Group on teachers and students: first, by assessing teachers' changes in their teaching value system, and then by examining students' salient outcomes, which are their learning beliefs and values.

7.4.1 Reducing teachers' teaching pressures

As previously stated in Chapter Six, several multi-faceted strategies have been conducted to operate the BG Education Group. One significant change is that the BG Education Group re-built and standardised the regulations that govern teaching quality assessment and performance-based pay for teachers across all member schools. The Chief Principal's philosophy for primary education and students' development has direct influences on designing the evaluation of teaching quality and this was supported by one of the principals:

> *Primary school is the initial stage of students' development, acting as a foundation for students' development. Students are like springs, and if they are screwed too tightly, they are more likely to feel tired. If students are provided with a more relaxed environment in primary school, they may have greater potential to develop (BG-ZH-01).*

Thus, it is worth serious consideration as to why and how the quality of teachers' teaching is evaluated. In the BG Education Group, the quality of teachers' teaching was evaluated using a combination of approaches, including comparisons to their records of teaching quality, and comparisons to the teaching quality of their colleagues, with the former approach taking precedence. By interviewing teachers, this study finds that these changes in evaluating teachers' teaching quality had a strong impact on them. One of the interviewed principals discussed his specific perceptions and the potential influences of

this new approach for evaluating teaching quality.

> *Now, teachers are more focused on students' all-around development rather than only concerned with their exam scores. If we create a more relaxed learning environment for students, allowing them to read extra-curricular books, they will develop better than before (BG-ZH-01).*

The principal further explained the possible reasons for how these new changes happened by comparing traditional and new approaches to evaluating teachers' teaching quality:

> *In the past, we only used the average score of the whole class to measure teachers' teaching quality. At the same time, teachers' performance-based salary is paid based on students' exam scores. Therefore, teachers were extremely concerned about the students' exam results. This type of concern would become a kind of teaching anxiety and directly pass on to their students, such as teachers becoming impatient and irritable during their teaching.*

> *In the BG Education Group, teachers' teaching quality is evaluated with multiple approaches. That is to say, teachers are evaluated by comparing themselves to see if they have made progress or have regressed. Teachers are feeling more comfortable and less anxious about this new evaluation method. Therefore, teachers have more space and flexibility in their teaching. (BG-ZH-01)*

Specifically, The BG Education Group published a plan to guide the evaluation of teachers' teaching, titled "Teaching quality assessment and reward plan in BG Education

Group". This plan evaluates teaching quality in six areas: lesson preparation, teaching, student homework, mentoring, lesson research, lesson refinement, and teaching inspection. In addition, the BG Education Group published another three plans to guide teachers' teaching activities and help them develop their instructional routines. These plans cover a variety of teaching topics, including assessing teaching standards and evaluating students' achievements.

These evaluating programs are completed using three types of procedures. An interviewed teacher provided the details of these procedures.

> *The first type is to compare with your past teaching records. For example, in this semester, the average score of your class is 96 out of 100, while this score in the previous semester was 91, so you increased 5 in the average score. Based on this result, you could receive an outstanding teaching award. However, if the score gap is less than five and over zero, you could receive the teaching encouragement award; if the average score change is negative, you would not receive the teaching award.*
>
> *The second type is to compare your average score with the average score of the BG Education Group in the same semester. If your students' average score is larger than the average score of the BG Education Group, you could have a teaching award.*
>
> *The third case is if the average score of your students was ranked the number one last semester in the BG Education Group, and this result remains in this semester, then you could receive a teaching award no matter if the average score rises or falls (BG-ZH-02).*

To summarise, teachers' teaching quality is evaluated with a comparative approach rather than only focuses the results of one semester. Specifically, there are two compare standards for principals to evaluate teachers' teaching quality in the BG Education Group: (1) the absolute standard (compared to the teaching qualities from other participating schools), and (2) the relative standard (compared to the historical individual teaching records of teachers) to evaluate teachers' teaching results.

Teachers' performance-based salaries rely on the results of evaluating teachers' teaching quality. An experienced teacher provided some additional information regarding performance-based salaries.

> *Teachers who win the outstanding teaching award could [get] 800 Yuan[30], the teachers who receive the teaching encouragement award could get 600 Yuan, and the remaining teachers who do not receive a significant increase in their teaching scores could have 200 Yuan. This reward money incentive is part of teachers' performance-based salaries.*

According to this reward standard, the monetary incentives are less than about 200 Australian Dollars in one year, which is a small amount. Thus, teachers do not push their students just to gain these rewards and this is supported by one of the teachers:

> *On the evaluation of teaching quality, we care more about honour rather than*

[30] Yuan is the Chinese unit of currency. It is also called "RenMinBi" (RMB). The official rate of exchange in 2022 is 1 Australian Dollar = 4.8 Yuan.

money in the BG Education Group evaluating system. However, in other schools, some teachers could have over 5000 Yuan in one semester, while some teachers only have a few hundred RMB. Teachers would place their full attention on students' testing scores for earning the teaching rewards and then they could receive the monetary incentives. On the contrary, teachers from the BG Education Group will not pay too much attention to students' test scores just for money. Consequently, students could learn in a more flexible climate rather than just focusing on an exam (BG-S-01).

Another change is that the member schools built a new relationship within the BG Education Group guided by the vision of "harmony with diversity". That means within the BG Education Group, all member schools should collaborate and support one another to develop the group's characteristics by developing its expertise. By doing so, low-performing schools cannot simply replicate the development model of high-performing schools and rely entirely on their support and resources.

Influenced by these two changes, the well-being of teachers in their teaching has improved. On the one hand, due to the performance evaluation, teachers are less anxious than they were previously. On the other hand, teachers no longer place as much emphasis on students' test scores as previously. Teachers can devote their time to cultivating students' all-around development, such as students' extra-curricular interests, their exploratory spirit, and innovation, rather than just focussing on academic performance. Also, these new changes in the BG Education Group have had an indirect impact on students due to the improvement in teachers' mental health.

The above findings on the influences of the BG Education Group on teachers are echoed in the research of Beninghof and Leensvaart (2016), which found that

collaboration among teachers can support teachers in developing student-based teaching strategies (Slavit, Kennedy, Lean, Nelson, & Deuel, 2011). This study discovered additionally that by collaborating, negative emotions in teachers could be alleviated, thereby improving their well-being in schools (Forte & Flores, 2014; Kunnari, Ilomaki, & Toom, 2018; Reeves, Pun, & Chung, 2017; Takala & Uusitalo-Malmivaara, 2012).

7.4.2 Providing students with a flexible learning climate

Students' exam pressures have been significantly reduced as a result of teachers' improved and broader approach to teaching. Additionally, teachers have had increased opportunities for learning and exploration based on their interests. Indeed, the BG Education Group provides numerous activities for teachers to support students in developing their capacity for innovation and broadening their horizons, which are described in the following examples.

The "slow curriculum"[31] is provided for the first-grade students. Students receive varying degrees of academic support from their families for a variety of reasons, which include parents' educational levels and economic statuses (G. B. Fang & Hou, 2019; Sirin, 2005). As a result, when students enter primary school, some have acquired nearly all of the necessary knowledge, while others have not acquired any. An interviewed teacher commented students' knowledge gap as a challenge.

This enormous knowledge gap between students poses a significant challenge

[31] The slow curriculum refers to a special arrangement for the grade one students, which is in the first month, teachers do not teach any formal content instead by the learning habits, and cultivating learning interests.

for teachers because some students lose interest in learning because they already know a lot, while others will lose confidence due to their limited knowledge in comparison to their classmates (BG-ZH-01).

Therefore, teachers find it extremely difficult to meet the needs of all students during the early stage of the first semester in Grade One. To address this issue, the BG Education Group developed the "slow curriculum", which suggests that teachers abandon teaching content and instead focus on students' learning habits, and behaviours, and forming positive perceptions of schools during the first month. Therefore, the goal of a "slow curriculum" is to cultivate students' learning habits and a strong interest in learning when they begin their primary education, rather than to quickly acquire knowledge.

Another example is the exam-free activity offered to students who have completed the Grade Three, as discussed in Chapter Six. As previously stated, the exam-free activity benefits students by cultivating their learning interests and expanding their professional horizons. Moreover, participating students regard it as a badge of honour and a way to meet new people.

This study reveals that collaboration can help students broaden their professional perspectives, deepen their world understanding, and increase their motivation to learn, which is consistent with the findings of Akiba and Liang's (2016) and Kanellopoulou and Darra's (2019) research.

7.5 Teacher change in the external domain

The external domain of teachers' changes refers to "the alternative external sources of information or stimulus" that teachers can use to support them (Clarke &

Hollingsworth, 2002, p. 953). In this study, the external domain describes the information or stimulus that teachers receive from the BG Education Group rather than from a single member school. Through data analysis, this study argues that the BG Education Group is regarded as an external source for teachers because it shares teaching resources and expert teachers, thereby increasing teachers' capacity and learning opportunities at school.

7.5.1 The BG Education Group is a source of teacher resource

The BG Education Group could distribute teacher resources on the group level rather than at the school level, and then it could be more possible to achieve a balance among member schools in terms of teacher resources. There are two ways to accomplish this goal. First, teachers in the BG Education Group are more easily mobilised between member schools. This strategy implies that if member schools are part of the same group, the expert or experienced teachers could probably be distributed equally among them. As this study has mentioned previously, there are two possible explanations for this result. The first reason is that teachers are required and guided to mobilise due to the clear statement regarding the rules on the mobilising of teachers. Another reason is that regarding the development of teachers' collective identity, which refers to their perceptions of themselves as members of an education group, teachers readily accept the decision to mobilise to another school as claimed by teachers:

> *It doesn't make any difference in which school I teach. Whether I am a BG School or ZS School teacher, my job is the same: teaching. Therefore, when my principal asked me to mobilise to another school, I said OK (BG-P-01).*

> *The two schools [BG School and ZS School] have over 100 teachers. We [ZS School] have some expert teachers, and so do they [BG School]. The expert*

teachers from the BG School are leading us, and we watch the gap between us. From the inner heart, I do think we should learn from them. (ZH-Y-01)

7.5.2 The BG Education Group is a platform for sharing teaching resources

At the teaching level, several interviewed teachers agreed that the BG Education Group, by developing various activities, had positively influenced them:

Since the BG Education Group was established, it has provided more learning opportunities, and many teachers want to join in. There are more leading resources in the BG Education Group because we are not planning lessons limited to our classes, our teaching research groups, and our schools. (BG-ZH-01)

In the BG Education Group, you have more opportunities to connect with expert teachers and then have a wider vision than before. (ZH-Q-01)

Specifically, the collective lesson preparation and collective lesson planning provide teachers with more learning opportunities within the BG Education Group, as discussed by an interviewed teacher:

Take collective lesson planning as an example. In your school, only a few teachers may provide some suggestions on your teaching design, while in the BG Education Group, I can invite teachers from other member schools to discuss. This is an obvious advantage of the BG Education Group (BG-Y-01).

Novice teachers have access to more learning opportunities from being involved in the BG Education Group. For example, a music teacher discussed her opinions as follows:

I have more opportunities to teach open lessons than before because teaching open lessons is really good for my professional development (BG-ZH-02).

Novice teachers also have widened their professional vision and strengthened their teaching capabilities after engaging in collective lesson planning. For example, a teacher mentioned that:

By participating the collective lesson planning, his teaching design is more reasonable, and the quality of his instruction is improved (ZH-Y-01).

Experienced teachers have different benefits compared to novice teachers. An interviewed experienced teacher indicated that:

In the collective lesson planning, I, as an experienced teacher, have to guide the novice teachers and give suggestions on how to improve their instruction. Therefore, my coaching skills could be honed and I can gain more confidence when the novice teachers could learn from me (ZH-Y-01).

One reason novice and experienced teachers might have benefitted differently from collective lesson planning is that their roles in such activities were different. Novice teachers always conducted open lessons, whereas experienced teachers frequently offered comments and suggestions. Another reason is that novice teacher had conflicting views on collective lesson planning. An interviewed physical teacher mentioned his dilemmas.

For me, collective lesson planning is an excellent opportunity to learn from experienced teachers, because they would be provided insightful comments and suggestions. Also, it was a good platform for me to demonstrate my professional capacities, because the principal or middle leader of my school might

occasionally participate in these collective activities and if I can attract their attention, it must be beneficial for my long-term career development. Therefore, participating in the collective activities in the BG Education Group is also a dramatic challenge (BG-ZH-03).

Besides increasing learning opportunities, the BG Education Group served as a resource hub for teachers. For example, collaborative lesson preparation (details in Chapter Six) may enable teachers to share teaching resources and human talents, thereby reducing teachers' workloads. In the following interview excerpt, an intriguing case is discussed that involved the sharing of teachers between BG School and ZS School:

In the last semester, two music lessons could not be taught because of lacking teachers in BG School. Then, the principal of BG School invited a music teacher from ZS School to conduct two lessons a week in BG School, but with no extra salary. According to the requirement from the local education bureau, each music teacher should have 12 lessons in a week. For this teacher, she had ten lessons in the ZS School and two lessons in the BG School (BG-ZH-01).

It is uncommon for a teacher to work in two schools concurrently while being compensated by only one. The unified salary system in the BG Education Group, and the strong commitment of teachers and principals to the construction of the BG Education Group, ensured that the strategy of borrowing teachers was effective. Moreover, the BG Education Group extended the benefits, as expert teachers from the seven-member schools are more willing to participate in collective activities than they were previously as discussed below:

When deciding which school to hold the collective lesson planning, we

frequently choose the school with expert teachers in the planning subject. Then, we invite expert teachers to make suggestions for improvement. This type of resource is becoming more abundant than in the past (BG-Q-01).

Several studies confirmed the findings of this study in that teachers' collaboration can reduce their workloads through collective lesson preparation or resource sharing (Drossel, Eickelmann, & Schulz-Zander, 2017; Egodawatte, McDougall, & Stoilescu, 2011). Moreover, this study supports the notion that collaborative events can act as a web for the exchange of ideas and resources (Main & Bryer, 2005; Westheimer, 2008).

7.6 Barriers for teachers engaging in the education group

While it is evident that the BG Education Group does support teachers' growth, it is now confronted with some new challenges. Several teachers who were interviewed alluded to these challenges. Accordingly, this study has summarised these challenges into four categories.

7.6.1 Lacking time

One of the most glaring challenges is a lack of time, as one teacher discussed:

It is a challenge rather than an obstacle. We are extremely busy. Except for the normal teaching tasks, I need to prepare the lesson for planning. Therefore, I need to spend more time at night. This is not a difficulty, because at least I enjoy it and I need it. So, I have a strong willingness to have a chance at lesson planning (ZH-ZH-03).

According to this comment, it is obvious that teachers prefer to regard the

participation in collective activities provided by the BG Education Group as a learning chance rather than a task. Therefore, they are likely to engage if there are no conflicts with their current works.

7.6.2 Coordinating issues

Due to the time constraints or the great distance between schools, there may be a coordination issue between participating teachers from different member schools. For example, to engage in a collaborative activity, a teacher might require that additional time be spent on transportation, and if they were to leave their school, they would need to rearrange their daily schedule. More importantly, as a teacher commented,

these types of difficulties cannot be addressed immediately (ZH-W-01).

7.6.3 Increasing teachers' positive pressures

The third challenge is that it, to some extent, can increase teachers' work pressures. The BG Education Group events always attract a large number of teachers from all member schools. The group sets a very high standard in order to protect the reputations of schools and teachers. All participating teachers must make a concerted effort to complete these tasks well. Therefore, it can exacerbate the pressure on teachers, and this is confirmed below:

> *You must prepare to finish numerous tasks in a short period. That would be a tremendous amount of pressure. However, I believe it is more akin to a promotion than an increase in pressure. This activity possesses a magical quality that motivates you to do more and exert more effort. (ZH-ZH-02)*

If you rarely have the opportunity to attend open lessons and are suddenly required to teach one, you will immediately feel nervous in your mind and body language. As a result, I viewed it as training, particularly for your courage (BG-W-01).

Interestingly, teachers have perceived these pressures with a positive attitude. Therefore, these positive pressures probably increase teachers' engaging motivations and achieve a positive result.

7.6.4 Addressing conflict suggestions

When teachers participated in collective activities set by the BG Education Group, they were required to provide comments and suggestions about how to improve the observed open lesson. Teachers usually reached an agreement, but occasionally they disagreed. Therefore, the final challenge for teachers was to determine appropriate comments or suggestions and resolve conflicts. As mentioned by one novice teacher, this can be extremely difficult:

A mature teacher told me to do this, while another teacher suggested I do it using another approach. When there are many comments and suggestions, I have missed the massive suggestions. I don't have experience in how to decide. So, it is difficult for me to make a decision (BG-W-01).

This study confirms the findings of Bovbjerg (2006) that time constraints are a significant barrier for teachers participating in collaborative activities, as is coordination between teachers from different schools (Gunn & King, 2003; Watson, 2005). Moreover, Main (2007) research indicated that teachers face difficulties in resolving conflicts between themselves. This finding that collaboration among teachers may increase

teachers' pressures is supported by Johnson (2003)'s study.

7.7 Summary and commentary

This chapter illustrates the positive effects of the BG Education Group on teachers across four domains. Teachers formulated their institutional identity and collective identity in the personal domain. Meanwhile, teachers established a shared goal of implementing education groups, reducing school disparities, and promoting balanced development across schools. In the domain of practice, this study has revealed that the influences of the BG Education Group activities on teachers differed based on their teaching experiences.

This study argues that the BG Education Group can alleviate teachers' exam pressures, thereby creating a more flexible learning climate for students in the domain of consequences. The BG Education Group can expand learning opportunities, share resources, and showcase its competencies to teachers in the external domain. Furthermore, this study has revealed new challenges faced by teachers when they participate in collective activities organised by the BG Education Group, such as time constraints, coordination issues, new positive pressures, and confusion arising from conflicting comments and suggestions.

The next chapter will conclude the whole research. At the same time, the limitations and contributions of this study and future research directions will be discussed.

Chapter Eight
Development of the Education Group in China

8.1 Introduction

In the previous chapter, this study explores the influences of BG Education Group on teachers in four domains, including the personal, the practical, the external, and the consequences domains (Clarke & Hollingsworth, 2002). This chapter is continued to summarise the whole research process and discusses the contributions, implications, limitations, and future directions of this research.

School-to-school collaboration has been widely adopted as an effective strategy to improve schools, and support teachers and students (Chapman & Allen, 2006; Chapman & Muijs, 2013; Duffy & Gallagher, 2017). In several provinces and cities throughout China, education groups have developed as a typical form of school-to-school collaboration (X. W. Yang, 2014). This research conducts a case study to evaluate how an education group could improve teachers' instruction through the lens of organisational neo-institutionalism theory and network governance theory.

More precisely, I argue that the BG Education Group has progressed through three distinct stages, each influenced by a different type of institution. From sections 5.4 to 5.6 in Chapter Five, this study demonstrates that the regulative, normative, and cultural-cognitive institutions acted as a catalyst for the development of the BG Education Group in this instance. Additionally, several network strategies were developed to share and build the BG Education Group's power, reputation, and human and material resources.

Furthermore, these strategies are interdependent and work in concert to establish the network legitimacy of the BG Education Group. These strategies contribute to teachers' growth in terms of teaching beliefs, identities, and professional capacities. The study suggests that research into the evolution of education groups and their effects may be enhanced by conceptualising these as part of a new field comprised of three interconnected levels: the macro institutional environment, the meso education group, and the micro teachers' changes.

This chapter is structured as follows: Section 8.2 summarises the research process, followed by Section 8.3, which discusses the study's theoretical and practical contributions. Section 8.4 explains the study's limitations, while Section 8.5 mentions future research suggestions. Finally, section 8.6 summarises the entire study.

8.2 The research process: Summary

The project conducted a case study to examine the growth and impact of education groups in China, focusing on four key themes: (1) developing a new theoretical framework for school-to-school collaboration through a review of previous conceptual and empirical studies; (2) tracing the development of the Chinese education group through the lens of organisational neo-institutionalism theory; (3) analysing the BG Education Group's implementation; and (4) assessing the BG Education Group's impact on teachers.

8.2.1 Theoretical discussion on school-to-school collaboration

By comparing the various connotations of collaboration, cooperation, and federation, this study employed a descriptive lens to define school-to-school collaboration as

compulsory schools cooperating to create win-win relationships through resource sharing (curriculum, teachers, and other facilities). In China, the education group has a similar connotation to school-to-school collaboration, which also aims to foster reciprocal relationships between two or more schools through resource sharing or reorganising governance structures, whereas the education group gives a priority to reducing school disparities, achieving educational equity, and improving the overall educational quality of all member schools.

Given the complexity of education groups, this study argues that a combined theoretical framework is necessary to investigate their development and influences. Additionally, regardless of whether the education group is viewed as a bottom-up or top-down strategy, the education group's emergence and development are inextricably linked to the educational policies of the central and local governments. As a result, this study has taken educational policies and social contexts into account. Moreover, participants in education groups, such as principals and teachers, are inextricably linked, requiring a comprehensive approach to evaluating their interactions.

Considering the aforementioned discussion, this study proposed a three-level theoretical framework (including macro, meso, and micro) to explain the development of education groups by combining organisational neo-institutionalism and network governance theory. The macro-level analysis aimed to trace the development of education groups and investigate the influences of the institutional environment on its development. Specifically, the institutional environment includes regulative institutions, normative institutions, and cognitive institutions (Sørensen & Torfing, 2005). This corresponds to the first sub-question (the trajectory of the education group), which was addressed in Chapter 5. On the meso level, this study is concerned with the network strategies for

resource sharing developed by the education group.

In accordance with the categorisations of S. Zhang (2017), this study identified seven network strategies used by the BG Education Group to share the four types of education resources (power, reputation, human, and material resources). Chapter Six discussed meso-level network strategies. The network strategies utilised in the BG Education Group as listed below:

(1) Building a Tiao-Kuai integrating governance structure;

(2) Standardisation of governing rules to regulate the BG Education Group;

(3) Building reciprocal relationships between member schools;

(4) Reinforcing social impacts of the BG Education Group;

(5) Mobilising teachers between member schools;

(6) Exam-free activities for students;

(7) Providing collective teaching activities for teachers.

On a micro level, the objective was to investigate the influence of the education group on teachers, which addresses the third sub-question and is discussed in Chapter 7.

8.2.2 The trajectory of the BG Education Group

This study shows that the BG Education Group evolved through three stages. The first stage entailed the establishment of a new campus by BG School, which was

originally affiliated with BG School in 2003. In 2007, when the new campus had established itself academically, an autonomous and independent administrative team was formed, and this new campus was renamed the ZD School. Although ZD School increased the educational opportunities for local students, the educational quality of ZD School was not as good as that of BG School.

In 2009, the Tongxiang City government mandated the construction of education groups, which was referred to as the second stage. The BG Education Group has seven schools, including three high-performing schools (BG School, CB School, and ZD School), and four low-performing schools (CH School, FM School, RM School, and ZS School). The formation of the BG Education Group introduced a new issue: the growing number of teachers and principals created challenges for management and daily operation. For instance, there was no single large meeting room that could accommodate all teachers from the seven-member schools.

In the third stage, three clusters (Cluster BG-ZS, Cluster CB-CH, and Cluster ZD-FM-RM) were created to address the issue of the overwhelming size of the BG Education Group. The focus of my case was Cluster BG-ZS, which includes a high-performing school (BG School) and a low-performing school (ZS School). The clusters were organised geographically and in relation to the connections between schools. Additionally, the cluster arrangement has the characteristics of stronger relationships between member schools and more deep participation in the collective activities. The possible reason is cluster is smaller than the BG Education Group, and it is easier to manage.

Concerning the motivations or supporting factors for developing school-to-school collaboration, studies conducted in the West revealed that schools collaborated to share

resources, such as teachers, teaching facilities or practices (Chapman & Muijs, 2013; Connolly & James, 2006; Feys & Devos, 2015). However, in China, schools engaged in education groups to improve educational quality (X. Y. Yang & Yang, 2020) or because this engagement was driven by national education policies to reduce school disparities (L. Z. Cao & Fang, 2020). This study has examined the supporting factors of the education group's development from the perspective of institutions (R. W. Scott, 2001) and demonstrates that regulative, normative, and cultural-cognitive institutions all exerted significant influence on this education group.

Regulative institutions are formalised or explicit rules that impose coercive requirements on individuals or organisations (R. W. Scott, 2001). This study argues that two types of regulative institutions have contributed to the development of the BG Education Group as well as other education groups: the educational policy that monitors the balanced development of compulsory education and the educational policy that monitors Chinese educational modernisation. The Chinese Ministry of Education used education groups as a critical strategy to ensure the reduction of the educational disparities between schools (Chinese State Council, 2012). The school inspection policy for the balanced development of compulsory education and educational modernisation would entail an inspection of the educational group and would then foster its development.

Individuals are embedded in social contexts, as normative institutions emphasise (R. W. Scott, 2001). Individuals would have internal obligations as a result of this embeddedness, which gives them the sense that there is something they should do, and individuals should fulfil their social responsibilities and expectations (R. W. Scott, 2001). This study demonstrates that two social obligations motivated teachers and principals to join and then support education groups. The first social responsibility was to carry out

national educational policies. Because the establishment of education groups is a central component of the policy for achieving a balanced development of compulsory education, teachers and principals placed a high premium on education groups. Additionally, the implementation of education groups was assumed to be part of the work of teachers and principals, as they are necessary for the fulfilment of national education policies. The second social obligation is to improve the educational quality of low-performing schools. The high-performing schools received more resources from governments than ordinary schools as a result of the key school policy, which has been discussed in Chapter Five. This unequal input may contribute to and exacerbate the disparities in educational quality between key schools (high-performing schools) and ordinary schools (low-performing schools). As a result, parents desire that their children attend key schools, while ordinary schools face a student shortage. The Chinese government recognised the critical nature of reducing this disparity and then mandated that high-performing schools assist those low-performing schools. Additionally, the principal of BG School views supporting ZS School as a moral obligation. Indeed, this study found that the principal and teachers from BG school were willing to share resources and offer professional assistance to their colleagues from ZS School.

R. W. Scott (2001) defined cultural-cognitive institutions as internal and always unobservable cognitive schemas that implicitly influence individuals' behaviours and perceptions. The findings of this study indicate that two cognitive schemas held by teachers and principals have an effect on the development of education groups: the educational equity schema and the teachers' identity schema.

The educational equity schema is defined in this study as a collection of knowledge and skills for achieving educational equity that teachers acquire through their classroom

practice and research. The educational equity schema can constantly be revised and strengthened in practice. Teachers and principals assess the appropriateness and legitimacy of their behaviours in relation to the educational equity schema.

Teachers' new identities may benefit their awareness of resource sharing and collaboration. Teacher identity is concerned with the teacher's beliefs about teaching and being a teacher (Tsui, 2007) and with the question of "Who am I?" in this context (Beijaard et al., 2004). Teachers' identity schemas shape their perceptions of their roles, jobs, and desired behaviours. This study confirms the finding that teachers' identity schemas are significantly influenced by their study and teaching experiences (Beijaard, 1995) by demonstrating that teachers' identities change when they join the BG Education Group. To be more specific, before joining the BG Education Group, teachers rely on the teaching subject or the working school to define and understand their roles. However, after joining the BG Education Group, teachers are required to mobilise between member schools and have increased opportunities for collaboration with colleagues from other member schools. These changes present new challenges for teachers, such as the fact that teachers may experience difficulties with defining and understanding their roles within the school they work in, as they are mobilised between different member schools within the BG Education Group. Thus, the BG Education Group, rather than the school they are working in, serves as a new label to assist teachers in developing their new, broader identities. The possible explanation is that, even though teachers work in different schools, they have developed close relationships and tend to regard one another as colleagues who work in different schools.

8.2.3 Strategies in implementing the education group

According to the research of S. Zhang (2017) on resource distribution within an

education group, this study identified seven network strategies developed within the BG Education Group to share different types of resources: power, reputation, human resources, and material resources. Utilising these network strategies, this study revealed that the BG Education Group could reduce disparities in teacher resources, teaching facilities, and improve students' psychological feelings.

By using S. Zhang (2017)'s definition of power resources, which is the ability of schools to exert influence through the use of a specific structure and set of rules, this study argues that two strategies were used to share and rebuild power resources in the BG Education Group: the establishment of a Tiao-Kuai integrated governance structure and the adoption of standardised governance rules. Tiao-Kuai is a Chinese political term that refers to the governance structure of the BG education group in this study. The Tiao-Kuai integrated governance structure is comprised of two critical components: the Kuai refers to the horizontal structure, which is the new developed Principals' Committee of the BG Education Group, while the Tiao refers to the vertical structure, which is the operating relationships between member schools and the BG Education Group. The Principals' Committee comprised of the principals of all member schools, including the Chief Principal, as well as the seven Vice Chief Principals in divisions. Tiao discusses the operational relationships between the education group's seven divisions and their member schools. The Tiao governance structure is distinct from the hierarchical administrative structure. For example, participants from member schools could negotiate on implementing the plans determined by the BG Education Group to safeguard their benefits. Additionally, the Tiao and Kuai integrated as a unit to ensure the effectiveness of BG Education Group. The administrative authority vested in the Tiao-Kuai integrated governance structure acted as an external force for the education group's development.

Standardisation of the BG Education Group's governance rules was another strategy for sharing and reconstructing power resources. The BG Education Group published over 135 rules, covering seven spheres of activity, all member schools were able to manage and control their daily operations according to the same set of rules. Additionally, the standardisation of governance rules was seen to benefit teachers by reducing their working pressures and altering their external environment. In Chapter Six, I discussed two examples of these effects: new teacher recruitment and teachers' performance-based pay rules.

The term "reputational resources" refers to a school's reputation and recognition (S. Zhang, 2017). This study demonstrates that the BG Education Group fostered reciprocal relationships among member schools and reinforced the social impacts of the BG Education Group to share reputational resources.

Although BG School and ZS School have a reputational gap, the BG Education Group emphasised that BG School and ZS School have equal status. As a result, the BG Education Group developed a shared vision: harmony with diversity, which means that all member schools should develop their distinctive characteristics while maintaining a balanced and high-quality development. Following this educational value, BG School developed its expertise in Chinese calligraphy, and ZS School possessed expertise in computer education; thus, BG School and ZS School were able to learn from each other and develop reciprocal relationships. Importantly, this study argues that developing reciprocal relationships may help alleviate the issue of school homogenisation among member schools (J. Liu, 2021; X. W. Yang, 2014).

The second network strategy for sharing reputational resources is to reinforce the social impact of the BG Education Groups by inviting member schools to engage in

collective activities. This study claims that engaging in collective lesson preparation and collective lesson planning benefits participants in two ways. It may have a broader social impact on the member schools and teachers. Moreover, Chapter Six presents three examples of how engaging in collective activities makes it easier for participants to appreciate the evolution and influences of the BG Education Group.

The term “human resources” refers primarily to the quality and quantity of teachers and staff employed by member schools (S. Zhang, 2017). This study demonstrates that the BG Education Group leverages teacher mobility to share human resources and then support the implementation of the BG Education Group. Teacher mobility is defined in this study as teachers moving in an irreversible approach from their current teaching school to another member school within the BG Education Group. To ensure that mobility runs smoothly, the BG Education Group has issued a set of guidelines and published some clear criteria for determining who should be mobilised.

Additionally, this study examined the perceptions and attitudes towards the mobility of teachers, as well as the potential effects of mobility on member schools and teachers. The study found that, for teachers, being mobilised to a new school may present new challenges, such as increased workload, adjusting to a new environment, and even affecting their promotion, but it may also have some positive benefits, such as increasing their willingness to collaborate and share resources with colleagues, having more learning opportunities. Teacher mobility may benefit member schools by assisting in the management of teachers and allocating teacher resources based on the school’s unique needs. Additionally, teacher mobility may alter the teacher’s identity, implying that teachers define themselves through the BG Education Group.

Material resources include a variety of different types that member schools possess,

such as instructional facilities, equipment, and curriculum resources (S. Zhang, 2017). The BG Education Group, the study argues, shared material resources by providing opportunities for teacher interaction, such as exam-free activities for students and collective teaching activities.

8.2.4 Impacts of the BG Education Group on teachers

Consistent with the findings of Clarke and Hollingsworth (2002), this study revealed that the BG Education Group influenced teachers in four domains, including the:

(1) Personal domain, refers to teachers' change in their knowledge, beliefs, and attitudes.

(2) Practical domain, referring mainly to teacher change in their professional experimentation.

(3) External domain, including the sources of information, stimulus, or support, which provide support for teacher change.

(4) The domain of consequences, refers to the salient outcomes of teacher change, such as teacher control, and student motivation.

Teachers could share professional knowledge with colleagues in the BG Education Group in the personal domain. Additionally, the BG Education Group may support teachers developed a new collective identity. That is, teachers, perceived themselves as belonging to the BG Education Group rather than the school they are working on. Moreover, teachers' willingness to participate in the BG Education Group was bolstered by their collective identity. Furthermore, teachers shared collective goals within the BG Education Group, such as achieving a balanced development of compulsory education.

Member schools agreed they should develop their characteristics or expertise rather than relying solely on the high-performing schools.

Teachers gained a variety of benefits in the domain of practice, which varied across their diverse teaching experiences. Because novice teachers lacked teaching experience and practical knowledge, they were constantly focused on developing practical skills or strategies that they can immediately apply in their daily teaching. However, experienced teachers had a different set of concerns about the BG Education Group's activities. For example, they were more focused on the teaching objectives, the interactions with students, and how to meet the diverse needs of students.

The domain of consequences refers to significant outcomes for teachers and students (Guskey, 1986), implying that "the outcomes were significant to teachers' teaching" in terms of teacher control and student motivation (Clarke & Hollingsworth, 2002, p. 953). This study argues that the BG Education Group can alleviate teachers' teaching pressures on the exam by assessing teachers with multiple approaches and standards, such as compared with their historical records, or compared with the average students' performance of the BG Education Group and then providing students with a more accommodating learning environment.

The external domain is defined in this study as the information or stimulus that teachers receive benefits from the BG Education Group as an entity, rather than from a specific school. In this study, teachers saw the BG Education Group as an outside source of support because it shared resources and gave teachers chances to learn, which improved their ability to teach.

This study echoed with the research of Little (1990b) by emphasising the value of

collegiality between teachers that collegiality could provide more opportunities for teachers to have genuine talk on teaching, to share lesson planning and preparation, and to learn with mutual benefits. Moreover, this study also revealed that the regular collaborating activities hold by the BG Education Group could help teachers to overcome the fragile collegial relations (Little, 1990b).

8.3 Theoretical and practical implications

This study set out to examine the evolution of the BG Education Group and its influences on teachers, utilising the organisational neo-institutionalism theory (R. W. Scott, 2001) and network governance theory (Sørensen & Torfing, 2005). This study accepts the view that "governance networks are defined as an institutionalised field of interaction between relevant actors who are embedded in a community defined by norms and perceptions" (Sørensen & Torfing, 2005, p. 209).

Moreover, the study has contributed to elucidating the specific influences and mechanisms through which the BG Education Group influences teachers, which is also regarded as a research gap (L. Zhang, 2019). This study, using a three-tiered theoretical framework (See Figure 8-1), explains how the BG Education Group was influenced by the institutional environment (DiMaggio & Powell, 1983; March & Olsen, 1995). The study also demonstrates how the BG Education Group can be implemented effectively by identifying effective network strategies for sharing the four types of resources in the BG Education Group (S. Zhang, 2017). Additionally, this study argues that the interactions and integrations of these network strategies may contribute to the formulation of network legitimacy, which encompasses three dimensions: the legitimacy of the network as form, legitimacy of the network as an entity, and legitimacy of the network as interaction (Provan et al., 2008). By examining the BG Education Group's influence on teachers, this

study demonstrates how teachers constructed their collective identity and, conversely, how teachers' collective identity contributed to the education group's legitimacy and the implementation of network strategies.

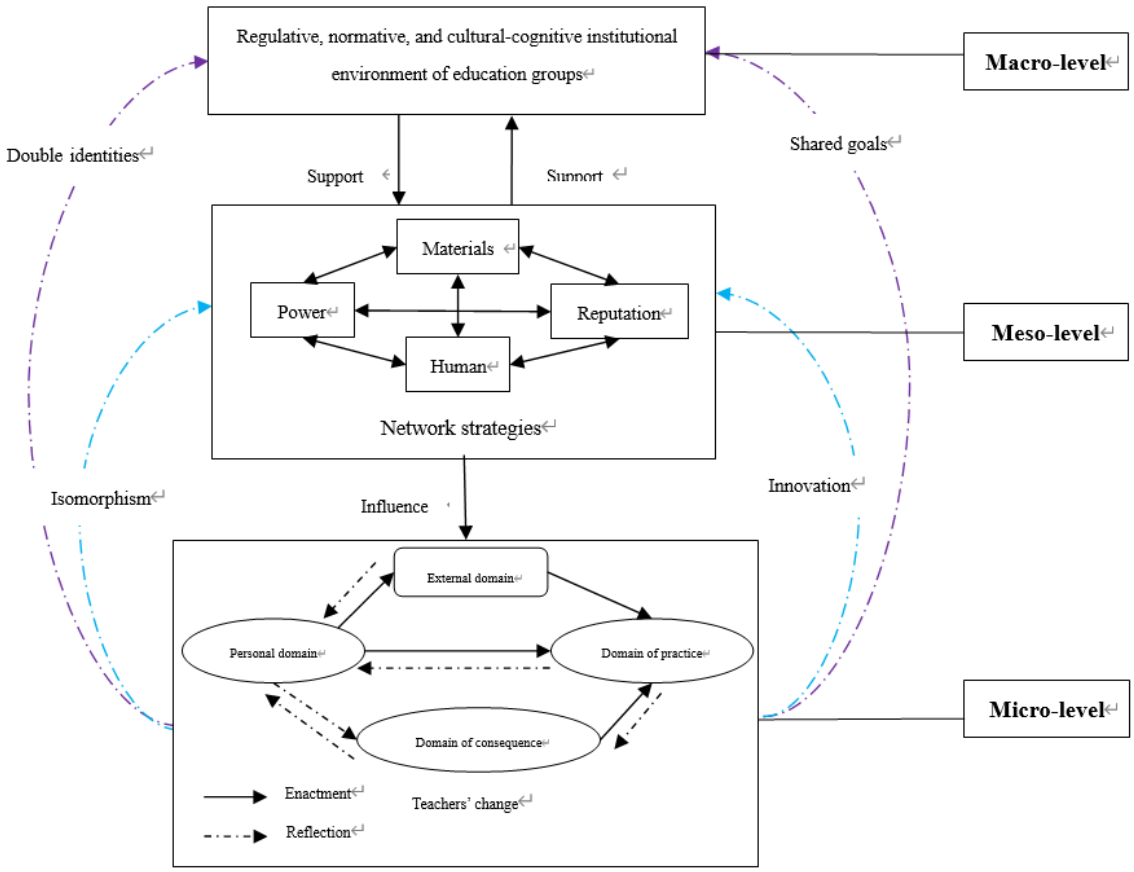

Figure 8- 1 Theoretical relationships within the BG Education Group

Data source: Self-created

According to the findings of exploring the development of the BG Education Group, this study argues that the other school collaboratives should emphasise the importance of collaboration between teachers as well as support teachers' collaboration. Meanwhile, the other school collaboratives need to make clear how to ensure teachers' collaboration. Moreover, school leaders should support teachers to overcome barriers to engaging in collaboration, such as lack of time, and teaching schedule. In addition, this study gives

five practical suggestions for activities to facilitate the setting up of an education group (school-to-school collaboration); these appear below:

(1) Establishing a common goal for the education group's member schools.

(2) Creating an appropriate governance structure within the education group and standardising governance rules for all of the schools in the group.

(3) Making all member schools more equal and encouraging each member school to develop its distinctive characteristics.

(4) Encouraging all member schools to share their resources, such as teachers, curriculum, and other instructional resources.

(5) Enabling teachers to participate in collaborative activities and assisting teachers in developing strong individual relationships.

8.4 Limitations of this study

I conducted a qualitative case study to examine the BG Education Group's implementation and its impact on teachers. This study has three limitations.

To begin with, I chose one of the most critical forms of school-to-school collaboration, the education group, as the research object for this study, and I chose a case from China's east coast region. As a result, while this study may provide some insight into the development of education groups, it is unlikely that the findings will be directly applicable to other models of school-to-school collaboration or other regions of China.

Second, in consideration of the researchable factors for a PhD project, such as time

and cost, this study chose only two schools as the research objects, one high-performing school (BG School) and one low-performing school (ZS School), despite the fact that the entire BG Education Group consisted of seven schools. However, in this study, I interviewed the principal of BG School, who is also the Chief Principal of BG Education Group, and the principal of ZS School is the BG Education Group's principal of the teaching division. I interviewed these two influential principals, and then I can obtain a relatively comprehensive picture of the education group and its influence on teachers from the perceptions of principals.

Third, as a qualitative study, it is difficult to quantify the BG Education Group's influence on teachers. Nevertheless, this study has generated some intriguing and insightful hypotheses about the evolution of the BG Education Group and its influences, which will need to be confirmed through quantitative research.

8.5 Future research directions

According to the literature reviewed, a combined framework, which includes organisational neo-institutionalism and network governance theory, is rarely used in research on school-to-school collaboration. Additionally, few empirical studies have examined the effects of school-to-school collaboration on teachers in the western and Chinese worlds. Three possible directions for future research may follow from this exploratory study is done.

To begin with, there are over three distinct forms of school-to-school collaboration and numerous educational group models in the Chinese context. This study examined a single model of school-to-school collaboration that is located in a small city in a developed province. Thus, future research could compare different types of education

groups or different forms of school-to-school collaboration to find out how they work and how they affect stakeholders.

Second, this study focuses on teachers, even though teachers are inextricably linked to their schools' contexts. As a result, future research should shift the emphasis away from teachers and toward principals. For example, it would benefit from examining the roles, functions, and leadership of chief principals, principals of member schools, and middle leaders, such as teacher group leaders, because they serve as a link between the education group and the member schools. Meanwhile, given that the local education bureau is the driving force behind the education group's implementation, future research could examine the local education bureau's implementation concerns and identify how the local education bureau can improve the education group's development.

Third, to overcome the drawback of case studies which cannot be generalised, it is suggested that the future research could be conducted on the following three lines: first, using multiple case studies to compare different models of education groups and indicate their commonalities and differences; second, employ a quantitative approach and assess the specific effects of the education group or school-to-school collaboration on principals, teachers, and students. For instance, future research could use casual inference techniques to determine to what extent and how the education group can lead to the improvement of teachers' teaching, particularly in domains such as teachers' teaching skills, knowledge, or beliefs; third, using agent-based modelling to stimulate the developing process of education groups and revealing the potential mechanisms of effectively implementing education groups.

8.6 Conclusion

One of the most critical challenges faced by Chinese basic education is narrowing the gap between schools and meeting residents' needs for high-quality education. To address this issue, China has widely adopted school-to-school collaboration. The education group is an important form of school-to-school collaboration that has been used in a lot of different places in China.

The significance of this study is that it uses a combined theoretical framework, which includes organisational neo-institutionalism theory and network governance theory, to argue that the education group is critical in improving the teaching quality in low-performing schools. Specifically, this study reveals the education group's developmental trajectory within a particular institutional environment and the network strategies for exchanging and negotiating power, reputation, as well as human and teaching material resources. Finally, this study makes a case for the education group's beneficial influence on teachers in four domains, the personal, practical and external domains and the domain of consequences.

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Appendices

Appendix A: Human ethics certificate of approval from MUHREC

MONASH University

Monash University Human Research Ethics Committee

Approval Certificate

This is to certify that the project below was considered by the Monash University Human Research Ethics Committee. The Committee was satisfied that the proposal meets the requirements of the *National Statement on Ethical Conduct in Human Research* and has granted approval.

Project ID: 22073
Project Title: School-to-school collaboration enhancing teaching and learning: A case study in Zhejiang, China
Chief Investigator: Dr Wing Chan
Approval Date: 16/12/2019
Expiry Date: 16/12/2024

Terms of approval - failure to comply with the terms below is in breach of your approval and the *Australian Code for the Responsible Conduct of Research*.

1. The Chief Investigator is responsible for ensuring that permission letters are obtained, if relevant, before any data collection can occur at the specified organisation.
2. Approval is only valid whilst you hold a position at Monash University.
3. It is responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash letterhead and the Monash University complaints clause must include your project number.
6. Amendments to approved projects including changes to personnel must not commence without written approval from MUHREC.
7. Annual Report - continued approval of this project is dependent on the submission of an Annual Report.
8. Final Report - should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected completion date.
9. Monitoring - project may be subject to an audit or any other form of monitoring by MUHREC at any time.
10. Retention and storage of data - The Chief Investigator is responsible for the storage and retention of the original data pertaining to the project for a minimum period of five years.

Kind Regards,

Professor Nip Thomson

Chair, MUHREC

CC: Mr Guangbao Fang, Dr Penelope Kalogeropoulos

List of approved documents:

Document Type	File Name	Date	Version
Supporting Documentation	Interview Questions	09/10/2019	1
Focus Group questions	Interview Questions	09/10/2019	1
Consent Form	consent form_Principals	07/11/2019	2
Consent Form	consent form_teachers	07/11/2019	2
Supporting Documentation	Beigang Primary School-Permission letter	07/11/2019	1
Supporting Documentation	Zhongshan Primary school-Permission letter	07/11/2019	1
Supporting Documentation	Notice_Guangbao1	02/12/2019	3
Supporting Documentation	Notice_Guangbao2	02/12/2019	3
Supporting Documentation	Notice_Guangbao3	02/12/2019	3
Supporting Documentation	Notice_Guangbao4	02/12/2019	3
Supporting Documentation	Parent Invitation	02/12/2019	3
Supporting Documentation	Invitation	02/12/2019	3
Explanatory Statement	explanatory statement_principal	12/12/2019	4

Explanatory Statement	explanatory statement_students	12/12/2019	4
Explanatory Statement	explanatory statement_teachers	12/12/2019	4
Consent Form	consent form_parents and students	13/12/2019	5

Appendix B: Questions to different actors

Interview outline for principals

1. Please introduce the history of your school.

2. Please introduce the history of the school-to-school collaboration from the perspective of your school.

3. How do you perceive the school-to-school collaboration?

4. Please introduce the current organisational structures of your school and the school-to-school collaboration and its situations.

5. How has the school-to-school collaboration been operated?

6. What are the possible influences of school-to-school collaboration on the different types of teachers?

7. What are the possible influences of school-to-school collaboration on the students?

Interview outline for middle leaders

1. Please introduce yourself.

2. How have the activities in the school-to-school collaboration been operated?

3. How do you ensure the effectiveness of these activities?

4. How do you understand your roles in the school-to-school collaboration? How do you present your functions?

5. Please introduce one of the activities you have participated in and give your deep impressions.

6. How do you understand the influences of school-to-school collaboration on teachers?

7. How do you understand the influences of school-to-school collaboration on students?

Interview outline for teachers

1. Please introduce yourself.

2. How do you understand your roles in the school-to-school collaboration? How do you present your functions?

3. Please introduce one of the activities you have participated in and give your deep impressions.

4. How do you understand the influences of school-to-school collaboration on teachers?

5. How do you understand the influences of school-to-school collaboration on students?

Interview outline for students

1. Please introduce yourself.

2. Please introduce one of the activities you have participated in and give your deep impressions.

3. What are the things you have learned?

4. How do you cope with the obstacles to your participation in those activities if you have experienced any?

Appendix C: Explanatory statement

EXPLANATORY STATEMENT

(Principals)

Project ID: 22073
Project title: School-to-school collaboration enhancing teaching: A case study in Zhejiang Province, China

Chief Investigator's name:

Philip Wing Keung Chan
Department of Education
Phone: 613 99059159
email: philip.k.chan@monash.edu

Student's name:

Guangbao Fang

Phone : 15217483599
email: Guangbao.fang@monash.edu

You are invited to take part in this study. Please read this Explanatory Statement in full before deciding whether or not to participate in this research. If you would like further information regarding any aspect of this project, you are encouraged to contact the researchers via the phone numbers or email addresses listed above.

What does the research involve?

This study aims to reveal how the newly implemented school-to-school collaboration has been conducted to enhance teachers' teaching and students' learning in Zhejiang Province. As the principal, you are invited to answer some questions relate to the school collaborations, such as how the school collaboration has been conducted, in order to implement this project, what network strategies have been developed, and what are the possible impacts and challenges of collaborations on teaching and learning based on your perspective. Each interview will last about 60 minutes. Under your permission, the whole interview may audio recorded by the researcher.

Why were you chosen for this research?

Principal as the main manager of the school, who is response for the school daily implementations. Thus, principals have a clear and holistic understanding of the development of school-to-school collaboration within their own schools. To some extent, the school-to-school collaboration was built based on principal's personal relationship. The principal response for the design of the collaborating relations with other schools as well as the implementations of school collaborations on the macro level. Thus, principals are the proper group to understand the rationality of participating in collaboration and the macro structure of collaborations. In addition, principal is the right person to understand the power flow within the school collaboration.

I will contact the potential principals by two ways: (1) email them by finding the official email which posting on the school public website; (2) introducing by the personal relations.

Consenting to participate in the project and withdrawing from the research

Principals participate in this study voluntarily, thus they can withdraw from this research at any

stage.

Possible benefits and risks to participants

There is no direct risk to principals who participate in this study. One of the possible potential risk is principals may need spend some personal time for interviewing. Because the interview could be organized in principal's office, then the researcher could use principal's spare time and it will not lead any un-comfortableness of them.

In addition, there is no direct benefits to principals too. However, by participating this research, principals can sort and re-organize their thinking about the school collaborations and this will deep their understanding of school collaboration. Meanwhile, based on the results of this research, principals may find some useful and powerful suggestions on how to implement school-to-school collaboration and how to narrow the gap between schools within the same district.

Confidentiality

I will use the anonymity skill to re-code the information of each participant during the data analysis and in the final thesis. Specifically, I will only show the information of Zhejiang Province and use the 'TX' to instead the city and 'S1', 'S2' to represent the different schools in my research. As to the principals, I will give each participant a new name. For example, if the full name of the principal is 'Xiaohui Shen', then her pseudonym is Lora.

Storage of data

The data will be stored in the investigators' computers with a password protected and investigators have access to the data only. The data will be stored over five years.

Results

All the participants can access my results by two ways: (1) I will public my thesis on the Monash library; (2) I will send the electronic form of my thesis to the participants.

Complaints

Should you have any concerns or complaints about the conduct of the project, you are welcome to contact the Executive Officer, Monash University Human Research Ethics Committee (MUHREC):

Executive Officer
Monash University Human Research ethics committee (MUHREC)
Room 111, Chancellery Building D, 26 Sports Walk, Clayton Campus, Research office
Monash University VIC 3800
Tel: +61 3 9905 2052 Email: muhrec@monash.edu Fax: +61 3 9905 3831

Thank you,

(insert Chief Investigator's signature)

Philip Wing Keung Chan

EXPLANATORY STATEMENT

(Teachers)

Project ID: 22073
Project title: School-to-school collaboration enhancing teaching: A case study in Zhejiang Province, China

Chief Investigator's name:

Philip Wing Keung Chan
Department of Education
Phone: 613 99059159
email: philip.k.chan@monash.edu

Student's name:

Guangbao Fang

Phone : 15217483599
email: Guangbao.fang@monash.edu

You are invited to take part in this study. Please read this Explanatory Statement in full before deciding whether or not to participate in this research. If you would like further information regarding any aspect of this project, you are encouraged to contact the researchers via the phone numbers or email addresses listed above.

What does the research involve?

This study aims to reveal how the newly implemented school-to-school collaboration has been conducted to enhance teachers' teaching and students' learning in Zhejiang Province. As the teachers, you are invited to answer some questions relate to the school collaborations, such as how the school collaboration has been conducted, in order to implement this project, what network strategies have been developed, and what are the possible impacts and challenges of collaborations on teaching based on teachers' perspective. Each interview will last about 60 minutes. Under your permission, the whole interview may audio recorded by the researcher.

Why were you chosen for this research?

The teacher responses for the implementations of school collaborations on the micro level and acts as the practioner. Thus, teachers are the proper group to understand the real implementations of school collaborations in the classroom context. In addition, the participating teacher is one of the most important role influenced by the school collaborative activities, then by interviewing teachers, it can deep our understanding of the impacts on teaching.

I will contact the potential teachers by posting the notice on the public space on teachers' office. Then, I will try to make personal connections with them and select the proper teachers as my research participants.

Consenting to participate in the project and withdrawing from the research

Teachers participate in this study voluntarily, thus they can withdraw from this research at any stage.

Possible benefits and risks to participants

There is no direct risk to the teachers who participate in this study. One of the possible potential risks is teachers may need spend some personal time for interviewing. Because the interview could be organized in their office, then the researcher could use teachers' spare time and it will not lead any un-comfortableness of them.

In addition, as one of the main concerns of this research is how the school-to-school collaboration influence their teaching, then this study can offer teachers some valuable suggestions on how to improve their teaching in the school collaboration context.

Confidentiality

I will use the anonymity skill to re-code the information of each participant during the data analysis and in the final thesis. Specifically, I will only show the information of Zhejiang Province and use the 'TX' to instead the name of the city and 'S1', 'S2' to represent the different schools in my research. As to the teachers, I will give a new name to each participating teacher, for example, Smith.

Storage of data

The data will be stored in the investigators' computers with a password protected and investigators have access to the data only. The data will be stored over five years.

Results

All the participants can access my results by two ways: (1) I will public my thesis on the Monash library; (2) I will send the electronic form of my thesis to the participants.

Complaints

Should you have any concerns or complaints about the conduct of the project, you are welcome to contact the Executive Officer, Monash University Human Research Ethics Committee (MUHREC):

Executive Officer
Monash University Human Research ethics committee (MUHREC)
Room 111, Chancellery Building D, 26 Sports Walk, Clayton Campus, Research office
Monash University VIC 3800
Tel: +61 3 9905 2052 Email: muhrec@monash.edu Fax: +61 3 9905 3831

Thank you,

(insert Chief Investigator's signature)

Philip Wing Keung Chan

EXPLANATORY STATEMENT

(Students)

Project ID: 22073
Project title: School-to-school collaboration enhancing teaching: A case study in Zhejiang Province, China

Chief Investigator's name:

Philip Wing Keung Chan
Department of Education
Phone: 613 99059159
email: philip.k.chan@monash.edu

Student's name:

Guangbao Fang

Phone: 15217483599
email: Guangbao.fang@monash.edu

You are invited to take part in this study. Please read this Explanatory Statement in full before deciding whether or not to participate in this research. If you would like further information regarding any aspect of this project, you are encouraged to contact the researchers via the phone numbers or email addresses listed above.

What does the research involve?

This study aims to reveal how the newly implemented school-to-school collaboration has been conducted to enhance teachers' teaching and students' learning in Zhejiang Province. As the students involved in the school-to-school collaborative activities, they have the first-hand experiences of these activities. Thus, understanding how the school-to-school collaboration influence students' learning is very important. Then, in this study, I will conduct a focus-group interview from each school in classroom during class time, including 3 students per group. Each interview will last about 60 minutes. Under students and their parents' permission, the whole interview may audio recorded by the researcher.

Why were you chosen for this research?

Although students are not the active actors in the school-to-school collaboration, all the influence will finally focus on students' learning and turns to the students' outcomes. Thus, assessing the impacts of school-to-school collaboration on students' learning is very important, especially based on students' own voice. In addition, interviewing students could be regarded as an implementing perspective to the teachers and principals.

I will contact the potential students by posting the notice on the public space on classroom. Then, the potential students build connections with their teachers. Then, teachers give me the final list of students and I will select students based on my research requirements. Finally, I will write a consent to their parents and explain the details of my research and tries to obtain the permission from parents or students' legal monitors.

Consenting to participate in the project and withdrawing from the research

Students participate in this study voluntarily, thus they can withdraw from this research at any stage.

Possible benefits and risks to participants

There is no direct risk to the students who participate in this study. One of the possible potential risks is students may need spend some personal time for interviewing. Because the interview could be organized in the classroom, then the researcher could use students' spare time and it will not lead any un-comfortableness of them.

In addition, as one of the main concerns of this research is how the school-to-school collaboration influence their learning, then this study can offer students some valuable suggestions on how to improve their learning in the school collaboration context.

Confidentiality

Students will be selected based on voluntary and their personal information will be kept in secret by using anonymity skill. At the same time, the students' social information, such as their family information, their class name will be hidden also. In addition, I will give a new name to each participant, such as John.

Storage of data

The data will be stored in the investigators' computers with a password protected and investigators have access to the data only. The data will be stored over five years.

Results

All the participants can access my results by two ways: (1) I will public my thesis on the Monash library; (2) I will send the electronic form of my thesis to the participants.

Complaints

Should you have any concerns or complaints about the conduct of the project, you are welcome to contact the Executive Officer, Monash University Human Research Ethics Committee (MUHREC):

Executive Officer
Monash University Human Research ethics committee (MUHREC)
Room 111, Chancellery Building D, 26 Sports Walk, Clayton Campus, Research office
Monash University VIC 3800
Tel: +61 3 9905 2052 Email: muhrec@monash.edu Fax: +61 3 9905 3831

Thank you,

(insert Chief Investigator's signature)

Philip Wing Keung Chan

Appendix D: Consent form

CONSENT FORM

(Principals)

Project ID: 22073

Project title: School-to-school collaboration enhancing teaching: A case study in Zhejiang Province, China

Chief Investigator: Philip Wing Keung Chan

I have been asked to take part in the Monash University research project specified above. I have read and understood the Explanatory Statement and I hereby consent to participate in this project.

I consent to the following:	Yes	No
Participate in the 60-minute interview.	☐	☐
Audio recording during the interview.	☐	☐
The data samples that I provide during this research may be used by investigators in future publications.	☐	☐

Name of participant:

Participant Signature : Date:

CONSENT FORM

(Teachers)

Project ID: 22073

Project title: School-to-school collaboration enhancing teaching: A case study in Zhejiang Province, China

Chief Investigator: Philip Wing Keung Chan

I have been asked to take part in the Monash University research project specified above. I have read and understood the Explanatory Statement and I hereby consent to participate in this project.

I consent to the following:	Yes	No
Participate in the 60-minute interview.	☐	☐
Audio recording during the interview.	☐	☐
The data samples that I provide during this research may be used by investigators in future publications.	☐	☐

Name of Participant:

Participant Signature : Date :

CONSENT FORM

(Parents and students)

Project ID: 22073

Project title: School-to-school collaboration enhancing teaching: A case study in Zhejiang Province, China

Chief Investigator: Philip Wing Keung Chan

I have been asked to take part in the Monash University research project specified above. I have read and understood the Explanatory Statement and I hereby consent to participate in this project.

Parents' part: I consent to the following:	Yes	No
Participate in the 60-minute interview.	☐	☐
Audio recording during the interview.	☐	☐
The data samples that I provide during this research may be used by investigators in future publications. Students' part:	☐	☐
I consent to the following:	Yes	No
Participate in the 60-minute interview.	☐	☐
Audio recording during the interview.	☐	☐
The data samples that I provide during this research may be used by investigators in future publications.	☐	☐

Name of Student:

Name of Parents:

Parent's Signature: Date:

Appendix E: School permission letters

[redacted]小学允诺书

亲爱的方光宝同学：

谢谢你邀请[redacted]小学的老师和学生参与你的博士课题研究，题目是：校际合作提升教师的教学和学生的学习：基于浙江省的个案分析。

我已经阅读，并理解知情书中的内容，同意你在我校开展研究。

[redacted]

[redacted]

07-11-2019

地址：[redacted]

[redacted] Primary School- Permission Letter

Dear Guangbao Fang,

Thank you for your request to recruit participants from [redacted] Primary School for your PhD research project, titled 'School-to-school collaboration enhancing teachers' teaching and students' learning: A case study in Zhejiang, China'.

I have read and understood the Explanatory Statement regarding the research and hereby give permission for this research to be conducted.

[redacted]

07-11-2019

Address: [redacted]

[redacted]小学允诺书

亲爱的方光宝同学：

谢谢你邀请[redacted]小学的老师和学生参与你的博士课题研究，题目是：校际合作提升教师的教学和学生的学习：基于浙江省的个案分析。

我已经阅读，并理解知情书中的内容，同意你在我校开展研究。

[redacted]

07-11-2019

地址：[redacted]

[redacted]Primary School- Permission Letter

Dear Guangbao Fang,

Thank you for your request to recruit participants from [redacted]rimary School for your PhD research project, titled 'School-to-school collaboration enhancing teachers' teaching and students' learning: A case study in Zhejiang, China'.

I have read and understood the Explanatory Statement regarding the research and hereby give permission for this research to be conducted.

[redacted]

07-11-2019

Address: [redacted]