The University of Nottingham, Ningbo

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Professional Identity of Teachers in the Context of the New School Curriculum Reform in China

Shuya WANG
6517843

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Abstract

Existing literature shows that teachers' professional identity (TPI) is becoming increasingly important in our global community, especially in the context of educational reform. However, TPI in secondary schools in contemporary China has not been widely studied, and only a few studies trace how or why the curriculum reform influences the transformation or changes of their professional identities. Research on such transformation is of significance to the knowledge field of teacher identity as it both takes pre-reform experiences as a notable influence and reveals the characteristics of identity change from a comparatively developmental perspective.

In order to address this gap in the literature and contribute to the domains of teachers' professional identity and curriculum reform, the current research focuses on a two-year case study of teachers in a senior secondary school in Ningbo (a coastal city in east China), attempting to have a comprehensive understanding of their TPI and investigate the role that curriculum reform plays in shaping their TPI. Identity in this study can be understood as how people perceive their relationship to the world, how that relationship is constructed across time and space, and how they understand possibilities for the future (Norton, 2000; Xu, 2013).

The theoretical framework features both teachers' professional identity and curriculum reform. Methodologically, qualitative research will be adopted. And a case study approach is the major research design frame. Specifically, questionnaires are used to form a general picture of the TPI in the researched school and also prepare the participants for the following interviews. Besides, semi-structured interviews are conducted as the major method to have a comprehensive and in-depth understanding of the eight individual teachers' perceptions and practices of TPI. By adopting Thematic Analysis (TA) to analyze data, some patterns of meaning are hoped to be discovered, thus providing some implications that can benefit teacher professionalism and school development alike.

This case contributes to research on TPI in China, especially in relation to curriculum reform. The major findings indicate that a positive attitude towards the future of curriculum reform could be seen and artistry in their teaching practice was discovered among all the participant teachers. The teachers showed discretion in response to their students' level and interests in implementing the curriculum reform in the classroom. The professional identity of the school teachers evolved in the process of curriculum reform and could empower teachers in various aspects.

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1.1 Introduction

Great importance should be attached to the role that teachers can play in today's schooling process. Teachers conduct the real teaching and contribute to students' learning and achievement, thus making teachers a key factor to improve the quality and standards of schools. In the context of educational change, it is essential to find how teachers perceive themselves as professionals and how their professions are defined by others, which can help sustain the quality of teachers' commitment and effectiveness. This paper focuses on teachers' professional identity (TPI) and reports TPI on a case study of a Chinese upper-secondary school (post-compulsory education), mainly aiming to examine the features of TPI in the researched school and to explore how and why the TPI has been influenced by the curriculum reform at the school level and at the teacher level. The context at a large scale is China's basic educational system as well as its national curriculum reform.

Though the notion of TPI has not been widely studied in the Chinese context, it has been increasingly emphasized and explored, especially through the lens of curriculum reform. Relevant research indicates that this focus is rooted in the development of two major domains: teachers' professional identity and curriculum reform. TPI became a separate research area in the 1990s (Beijaard, Meijer and Verloop, 2004). Simultaneously, in response to globalization, various large-scale

reforms were launched in educational systems as well as in the relevant curricula across the world (Law, 2014). This resulted in the possibility of frequent interplay between TPI and curriculum reform, attracting abundant research interest in this field. For instance, some key researchers tried to investigate how TPI was formed and transformed because of changes in education. In this sense, the previous studies can enhance the importance and open opportunities for the current study of teachers' professional identity in the latest school curriculum reform in Ningbo, a city in China.

1.2 Personal motivation

My motivation for the research originated from my teaching practice, where some issues concerning curriculum reform and teachers' professionalism were apparent. As a teacher in a secondary school for more than 15 years, I have experienced several major curriculum reforms and adopted different attitudes towards these changes. Initially, I disliked reforms. Similar to some teachers, I held the view that reforms often brought in new burdens, which meant an increasing number of working hours and extra work. Besides, the traditional teaching methods provided a sense of safety, so many teachers were reluctant to give them up. Teaching was largely based on textbooks and mainly for the national college entrance examination or *Gaokao*. And students' good performance in *Gaokao* often gave the teachers great satisfaction.

However, the curriculum reform in 2012 changed me greatly as it provided teachers with the opportunities to design some optional courses. I designed and implemented a course concerning the subject I teach (i.e. English), which proved to be a success. This course was welcomed by students and received an award from the government. Therefore, designing part of the curriculum brought me a sense of achievement.

Later, I was appointed to work in an office which was in charge of the academic affairs in the school, especially the designing and implementation of the school curriculum. This new responsibility enabled me to have more access to the latest educational reform than before. It also helped me to have a comparatively deep understanding of teachers' different responses to the same reform. Some teachers changed themselves to adapt to the reform, thus grasping the opportunities to improve their professional life. By contrast, others refused. For example, some experienced teachers were accustomed to adopting the traditional teaching methods and believed that the curriculum reform was a waste of time and labour, so they often lacked the motivation to implement reforms in practice, and even complained about the reform. Evidently, the curriculum reform, which encourages new teaching approaches, has brought much complexity to the individual TPI formation.

In brief, my own experience helped to explain my particular interest in this research focus, i.e. teachers' professional identity. In essence, I hope to improve teachers' professionalism and the school development by exploring teachers' perceptions and practice concerning TPI.

1.3 A historical review of Chinese teachers' professional identity

In order to understand teachers' experiences of educational policies and reforms in China, it is necessary to position them in the context of its history and current changes in society (Cheng, 2009; Lin, 1993; Chen and Day 2015). Before studying the TPI of the researched school as well as its changes in the context of curriculum reform, a big picture of the Chinese teachers' professional identity will be presented from a historical review. Briefly speaking, the teachers experienced several major changes in the long and complicated history of education in China. Traditionally, teachers enjoyed high social status in Chinese society. Along with heaven, earth, the emperor and parents, teachers were considered as one of the key cultural figures in ancient China (Chen and Day, 2015). As a great philosopher and educator, Confucius (551-479BC) is regarded as China's 'preeminent teacher' and has influenced the Chinese education since the Han Dynasty (207BC-220AD). Also, the image and importance of teachers has long been recognized. This was also reflected in teachers' influence on students. For instance, it has been widely accepted that the Chinese teachers should be role models for their students. Nevertheless, in the last several decades, teaching remained a less distinguished profession, one often

taken by those who were not successful in other occupations such as government officials and entrepreneurs (Chen and Day, 2015). In other words, teachers in imperial times received great respect culturally, but were socially or economically underprivileged (Paine and Fang, 2007; Ko and Adamson, 2011).

Based on the approach used by Ko and Adamson (2011), the traditional status of teachers in China and their changing roles in recent decades could be explored. Since the establishment of the PRC in 1949, curriculum innovation and changes have led to the Chinese teachers' undergoing some major historical periods: the Soviet influence, the First Renaissance, the Cultural Revolution, opening to the outside world, and globalization. Simultaneously, teachers also experienced several dramatic changes over the past few decades. The following section focuses on some major changes in their professional identity, especially those influenced by the social, educational and political factors.

The Soviet influence (1949-1960)

During the early years after the People's Republic of China was founded, young people were encouraged to take up education as a career. Teachers were given some political training and often described as 'people's teachers' and 'engineers of the soul', which indicated the influence from the Soviet Union. Since then, it has been a tradition to award 'titles' to teachers (Ko and Adamson, 2011).

As the theory concerning class struggle was adopted, teachers experienced some changes during political movements. Due to the Anti-Rightist Movement in 1957, teachers were classified as bourgeois scholars, indicating that teachers did not belong to the working class and should be 'struggled'. As a result, this movement weakened the quality of teaching and learning. Many teachers were criticized or ill-treated.

The First Renaissance (1960-1966)

The early 1960s was a period of renaissance for the teaching profession in China. The major reason for the boom lied in that economic instead of political development was emphasized in the country, thus leaving teachers relatively free to concentrate on their primary function of educators (Ko and Adamson, 2011). Also, teachers' salaries were raised. Local authorities provided experienced teachers with the title of 'Educational Expert' in order to recognize their professional service. It should be detected that the title of 'Educational Expert' indicated teachers' freedom to focus on their professional development. Teachers' professionalism was emphasized during this period.

The Cultural Revolution (1966-1976)

The Chinese Cultural Revolution (1966-76) aimed to implement the then Chairman Mao's vision of socialism, requiring all eligible young intellectuals to leave the cities and move to the rural areas to be reeducated by the peasants (Fan, 2016). This

decade-long political campaign caused great damage to the education in China. Teachers were targets for political transformation and many teachers were prevented from teaching. Some qualified teachers were sent to the countryside or were even re-educated (Chen and Day, 2015). Specifically, schools throughout the nation were closed to make 'revolution'. University entrance examinations were abolished for several years. Teachers were often vilified and required to 'remould' themselves in order to be accepted as 'members of the working class.' Also it was common that teachers, traditionally viewed as 'authority figures' in school, were 're-educated' by peasants or even their students (Ko and Adamson, 2011). It was not surprising that teacher's professional identities changed accordingly. During that period, teachers were classified as one of the 'black five classes', which meant they were opposite to the working class. Teachers' social status was much lower than many other groups.

Opening to the outside world (1978-1993)

This period witnessed the rising status of the Chinese teachers. In 1978, the economic modernization drive was launched in China by Deng Xiaoping, who was China's leader then. This drive opened the country wide to science, technology, and management systems, and to new ideas in the world (Vogel, 2011). Deng emphasized that education was crucial in facilitating this policy (Paine and Fang, 2007; Ko and Adamson, 2011). Since then, education has become a major concern along with China's development. With the Chinese education developing steadily,

the latest thirty years has continuously seen a series of systemic educational reforms (Lo, Lai and Wang, 2013).

Recognizing the importance of raising the quality of teaching profession, Deng stated that 'we hope that they not only dare to teach, but also can teach well'. In order to promote teaching excellence, the establishment of 'Special Rank Teacher (*teji jiaosh,特级教师*)' (or SRT) award was announced by Deng (Ko and Adamson, 2011). Later, the award as well as its appraisal system was confirmed and revised in some official documents.

The award of SRT was established to realize three major purposes: to improve the image of teachers, to retain good teachers, and to enhance the quality of teachers. In practice, the selected SRTs served as role models and did demonstrate many features of good teachers, such as having good subject knowledge and teaching skills, being reflective and motivated to improve their teaching, being innovative in teaching, making full use of the reform to progress in their career path, and being resilient in maintaining a strong professional self. Compared with the good teachers in other countries, SRTs of that period shared many traits, including resilience, diligence, and enthusiasm in teaching despite the tremendous difficulties in their lives. By examining the intellectual, political and moral concerns, the SRT award helped to explain what constituted the professional identity of good teachers.

Globalization (1990s onward)

Professional standards of teachers have been increasingly raised since 1990s, requiring higher qualifications, performance standards, and teacher professional development initiatives. This was rooted in the development of China and in the bigger context of globalization. From 1993 onward, China's growing economic, military, and political stability have earned international recognition. China actively participated in world politics as well as in other aspects of possible life. This orientation was best expressed in the unremitting calls for China to join the World Trade Organization (WTO), as well as in Beijing's bid to host the 2008 Olympic Games and Shanghai's pursuit of World Exposition in 2010. China realized many dreams in 2001-2002, which required China to open even further to the outside world (Zheng, 2005). In turn, teachers' role and social status changed accordingly.

1.4 The context

In the field of educational research, consideration of context is important in research into almost all issues and topics, particularly those into dilemmas in educational reform. The rationale is that educational reforms tend to bring transformation to the local context, which inevitably causes some tensions or conflicts between the local context and the reform ideas and practices, especially when the reform is imposed from outside (Yin, 2015). At the large scale, the Chinese basic education is the local context of the current study. A brief description of China's recent curriculum reforms and some features of the reform in Ningbo

will be presented, aiming to form a big picture of the context concerning the current study.

Basic education in China is roughly divided into three levels, namely, six-year primary education, three-year junior secondary education, and three-year senior secondary education (Lee et al. 2015). The concept of 'quality education for each and every student' (Ministry of Education, 2001) was promoted by Chinese government in 2001, which was exemplified by launching the National Curriculum Standards for Nine-Year Compulsory Education and Senior High School Education (Zheng, 2015). The 2001 Curriculum Reform was initiated by the Ministry of Education (MOE), which is in charge of the basic education in China. This reform featured the creation of guidelines and standards for many subjects in secondary schools (Chen and Day, 2015). Reforms to assessment systems could be seen in the Outline for Medium and Long-term Development and Reform of Education in 2010. Quality education (or quality-oriented education, in Chinese *sushi jiaoyu* 素质教育) was advocated to replace the traditional examination-oriented education, hoping to improve the qualities of schooling, teaching, and students' learning.

As the curriculum reform has a lasting impact on the Chinese education system as well as its teachers, a brief overview of China's national curriculum reform (CNCR) in general and Ningbo's in particular will be provided in this section. Emphasis will be placed on the key changes and latest significant moves in the reform. Besides,

given the relevance to the current study, much attention will be given to examine how the teachers' identity (or synonyms like 'role' or 'image') was perceived and formed in the curriculum reform. The final remark focuses on the primary research site of the current study, a senior secondary school in Ningbo.

1.4.1 China's national curriculum reform

Globalization has compelled China to reform its curricula. In keeping with the global trend of education reforms, China officially started a new national curriculum reform in 1999. The reform policies clarified that educational quality and professional accountability were the chief concerns of the state. In essence, education is to serve the government's economic and political agenda. The policies that have the strongest impact on teachers' work are those concerning curriculum reform and performance-based salary reform. In 2001, an influential curriculum document, *Decision on the Reform and Development of Basic Education*, was issued by the State Council of China. Two years later, the Minister of Education published new curriculum guidelines and standards intended for the senior secondary schools. The curricula of 15 subjects were changed as well, all of which shared core values of the national curriculum. By 2008, the reform had expanded to 19 provinces in China (Lee and Yin, 2010).

When the reform was implemented, Ministry of Education (2001) issued the Compendium of Curriculum Reform of Basic Education (Experimental Draft) and

corresponding subject-curriculum standards for primary and secondary schools. The compendium specifically defines the following six goals of curriculum reform:

1) to replace centralized curriculum management with a three-tier system of national, local, and school curriculum management to make the curricula adaptable to local areas, schools, and students;

2) to change the emphasis of the past curricula from simple knowledge transmission to learning;

3) to change the discipline-centred curriculum structure and make the structure integrated and adaptable to the various needs of pupils in different regions;

4) to revise the 'difficult, complicated, prejudiced, and outdated' curriculum content and strengthen the relevance of the curricula to the students and society as well as to the development of science and technology;

5) to change the emphasis of teaching and curriculum implementation from rote and drill to active learning and inquiry; and

6) to place the emphasis of curriculum assessment on selection functions and to stress the function of assessment in promoting the development of students, teachers, and schools.

A deep insight into the above items suggested that they were actually the key requirements given by the government on how to implement the curriculum reform in practice. A paradigm shift was evident in the curriculum policy: from a traditional

teacher-dominated, knowledge-based transmission mode of teaching to a learner-centred, experience-based, problem-solving mode of teaching. The curriculum reform was implemented at the advent of the new century, aimed to transform the nature of Chinese schooling at the classroom level (MOE, 2001). The deep-rooted teacher-centered pedagogy was to be modified in favor of a student-centered approach. The importance of public examinations was downplayed, and alternate routes for student mobility were explored and established. Along with these changes, the quality and effectiveness of schools as well as the teachers were to be evaluated systematically (Lo et al. 2013).

Besides, the local implementation was a focus of this national curriculum reform (Halpin, 2010). School teachers were expected to change their beliefs and practice according to pre-scribed national curricula. Unavoidably, the changes of curriculum policies did have a lasting impact on the professional identity of many secondary teachers. Some major changes advocated in the reform will be detailed as follows.

Change of the learning style

Before the reform, China's educational system could be described as 'behaviouristic', because the traditional curriculum featured the transmission of knowledge. By contrast, the new curriculum was based on an outcomes-based, student-centered approach, which was also a global trend in educational reform (Berg and Schulze, 2014). Curriculum policies defined teacher's role in a completely

different way. Teachers were encouraged to facilitate students' learning and improve students' learning abilities (Halpin, 2010). This means that teachers' major responsibilities were to encourage students to think and act actively in learning, thus developing their skills or abilities (MOE, 2001; OECD, 2010; Tan, 2012).

Emphasis on greater autonomy

Teacher-discretion and school-based curriculum development were both emphasized in curriculum policies (Halpin, 2010). In this sense, teachers' roles changed greatly: Teachers should be the implementer of the national curriculum. Also, they should be curriculum designers, fully taking their surroundings and students' needs into accounts. In this sense, teachers have the right to share the decision-making of the school curriculum, so they should be active and innovative in curriculum reform (MOE, 2001).

Teachers are expected to function as school-based curriculum developers/leaders, active implementers of innovative teaching practices, and facilitators of student learning. The answers of frontline teachers to 'what a teacher should be during curriculum reform' and to how they make sense of their role in the implementation of the new curriculum will both influence their action and perception. Also, teachers need carry the weight of the expectations of the stakeholders, especially the policy makers and school administrators, in implementing the curriculum reform faithfully and successfully.

Change of assessment

It was constantly emphasized in many governmental documents that there was a need to intensify the curriculum reform (MOE, 2014; 2016). One influential change was associated with the assessment. Previously, the National College Entrance Exam, or *Gaokao* in Chinese, was a major form of assessment for senior high schools as well as their curriculum. However, *Gaokao* was often criticized as a key factor for the divergence between curriculum policies and practices. The new curriculum highlighted students' diversified development instead of being fully assessed by a single summative exam. But in practice, many teachers kept teaching for testing and failed to adopt new curriculum. This revolutionary change in assessment seemed to have forced these teachers to shift their roles. Teachers were required to go beyond the students' exam scores to develop the students' moral quality, citizenship quality, learning ability, social interaction and cooperation and participation in sports, health and aesthetics.

Informationization

Another driver of the new curriculum reform is to accelerate the Informationization of Education, because the development of education should keep up with the digital age (MOE, 2016). Informationization of Education in China refers to 'the application of computer multimedia and network technology in teaching, learning, teaching administration' (Jiang, 2012, p.191). Information here refers to a basic element of

the education system. Some potential impacts of Informationization of Education include forming a new target and mode of teaching and education, promoting effectively the reform of education and teaching, improving the level of education and teaching, and accelerating the process of education modernization. Teachers are required to improve their capacity to incorporate information technology into their teaching. Accordingly, teachers are appointed with a new role of the applicant of new technology. Challenges of implementing Informationization of Education lie in the difficulties of adapting to the new teaching mode, transforming in teaching process, and establishing a new relationship between teachers and students (Jiang, 2012).

Studies showed that China invested much effort into Informationization of Education. However, that did not result in much improvement in the teaching quality. The information technology did not exert a significant role, mainly due to the fact that the structure of traditional teaching (system) has not been reformed on the basis of information technology and remains the same as before. Anyway, improvement could be found in some secondary schools, such as establishing virtual studying community or online studying organization (Zhu, Li and Liao, 2009). A more intensive and effective integration of information and education is required in the future, but that calls for more exploration. Some efforts have been made by the current researched school in this area both at the individual teachers' level and the school level, which will be discussed in the following section.

1.4.2 The curriculum reform in the researched school

The prime research site of the current study is an academically-oriented upper-secondary school, which has a comparatively high social standing and is located in the urban area of Ningbo. As for its development, the school is a senior secondary school which was established approximately 100 years ago. As a government-funded public school, the school is required to implement policies mandated by the central or local government. Owning to its good educational resources and excellent experienced teachers, the school was honored as a Key Senior School. Also, the school received numerous awards for its excellence performance in teaching and education. Due to its outstanding performance in curriculum reform, the school was awarded honors such as 'Provincial Level Demonstrative School'. The school can be considered as a 'reputational case' (McMillan and Schumacher, 1997), which performed excellently in curriculum reform by displaying innovative practices and experienced significant changes during the reform. These radical transformations influenced teachers' professional identity and emotions within the context.

When it comes to implementing curriculum reform, the school was also a model one, thus receiving numerous awards due to its exploration of effective teaching with diverse teaching strategies. Besides, some research activities were organized by the school for frontline teachers to share their perceptions and practice concerning curriculum and instructional designs. These activities included demo

classes given by representatives of senior teachers and competitions intended for

the teachers whose teaching experience was less than five years. In turn, teachers

were encouraged to do research and conduct experiments in teaching. Furthermore,

the school was renowned for integrating information technology with daily

instructional practice and thus received extensive recognition due to its endeavours

in this aspect.

As for other significant people who could influence the educational reform, the

principal of the school actively supported the implementation of curriculum reform

and promotes innovative practice. The principal was considered as an instructional

leader, who attached great importance to high-quality education and catering for

the students' individual needs in growth and learning. Besides, to examine how the

school implemented curriculum reform, various inspections were frequently

conducted by some external experts. The school teachers' responses to the new

curriculum reform were various, which could be detected in their behaviors or

decisions in the teaching practice.

In brief, this school can be an ideal research site to explore the research questions

raised in the current study, which attempts to explore the professional identities of

frontline teachers in the context of curriculum reform implemented in this specific

school. One focus is on teachers' various perception of their professional identity,

thus forming a big picture of the TPIs in the researched school. It also tries to

detect how teachers responded to curriculum reform and changed their perception

and practice of being teachers, hoping to find how the TPI was reshaped due to the

influence of the changing context.

1.4.3 New curriculum reform in Ningbo

The local government plays a significant role in the Chinese educational system, as

it is responsible for two major tasks: monitoring and supporting educational reform

implementation at schools, and serving as a supporting organization for teachers

(Chen and Day, 2015). The local government took into consideration the

characteristics of Ningbo city: a coastal city in Zhejiang Province, which is located

in the eastern part of China and the country's coastal developed area. Mainly due

to its economic and socio-cultural advantages, this area naturally received much

attention from both researchers and the government. Many Chinese educational

policies were based on the research and pilot experiments done in these coastal

provinces and cities (Hu, 2002).

The local public senior high schools in Ningbo, especially the government-funded

ones, are required to follow the instructions and policies made by the government.

According to the standards that the government set in the national and local policy

mandates, these schools required the teachers to participate in curriculum reform.

A 'staircase' model of curriculum implementation was stated in the relevant

curriculum document (Halpin, 2010, p.261). The management of curriculum is

shared by the central government, provincial educational administrations, and the school as well as its teachers. Also, these three levels of management are closely linked and interact with each other constantly.

In line with the national reform in exam, Department of Education of Zhejiang Province (2016) changed its assessment system. Assessment tools, such as the 'Overall Quality Assessment Record Booklet'(*zonghe shuzhi pingjia*,综合素质评价), were introduced to replace the former way of assessment, *Gaokao*. However, this booklet brought much extra work for the school and its teachers. Teachers complained about the increased burden, but most teachers chose to follow the reform policies. This strange phenomenon could be explained by the multiplicity of identity, which will be focused in the discussion concerning identity in the literature review chapter.

Besides, the images or roles of senior secondary teachers were clearly described in the latest curriculum documents, which was expressed in terms of 'teachers' ethics'. Teachers' ethics consist of their professionalism, professional ideals, professional ethics and attitudes of profession. Besides, teachers should serve as their students' mentor to help them grow up healthily (Department of Education of Zhejiang Province, 2015a; 2015b). In other words, school teachers should keep learning and developing their professionalism, thus renewing their values and knowledge on how to be good teachers. Also it encouraged teachers to take on some new

responsibilities as well as the role of subject matter experts. In this sense, teachers were required to take an active part in these fields. Teachers' agency, an important element of TPI, should play a role, which will be explored further in the literature review.

An orientation toward expertise, power and obligations of the teaching profession could be detected from the emphasis on the domains of teachers' knowledge, responsibility and authority, and autonomy. Essential components in the Chinese teachers' professionalism include knowledge, responsibility and authority (Lo et al., 2015). Teachers' level of competence is largely based on their understanding of professional knowledge, as it is directly related to the subject matters that they teach. Accordingly, the depth and richness of subject knowledge, especially the skillful application of rich subject knowledge in the pedagogy, matters greatly. Teacher responsibility refers to teachers' academic and moral obligations toward their students. To enable students to learn and to perform well academically, and to mold them into persons of good character are considered as essential parts of teachers' major responsibilities. Teachers' authority is established among students and colleagues mainly through the application of knowledge and skills, and the demonstration of a strong sense of responsibility. It is evident that the three components are closely related with each other. The change of teachers' professional knowledge or their responsibility can lead to that of teachers' authority. This could account for the fact that some teachers refused to welcome curriculum

reform, since the reform challenged part of their previous knowledge, and in turn changed the nature of their previous authority as well.

However, in practice, educational reform has become an indispensable part of the teachers' life, since there had been frequent policy promulgation and swift implementation. The hierarchical administrative structure of Chinese schooling made teacher's conformity to state and school directives voluntary and natural. The multi-tiered system of policy implementation supports a top-down approach, which provided the underlying logic of educational reform in China. The country level governments are responsible for offering basic schooling and for carrying out national, provincial, and metropolitan reform directives. Though approaches of this kind allowed policy measures to reach the grassroots level quickly, it was also difficult for educational reform to gain enough effectiveness (Lo et al., 2015).

1.5 The major aims and research questions

The study attempts to fill in the gap of the relevant field by exploring the nature of teachers' professional identity in a senior secondary school in China, with a particular focus on the impact of the curriculum reform on reshaping the TPIs. As the aim of this study is essentially exploratory and social in orientation, the research methodology adopted is primarily qualitative and case study in particular. The main research questions are as follows:

(1) What characterizes the teachers' professional identity (TPIs) in the researched school?

(2) How and why did the TPIs evolve in the curriculum reform during the studied period?

1.6 Methodology and methods of investigation

The methodology and methods adopted in this study are largely influenced by its research questions (i.e. to explore the reshaping of TPIs during curriculum reform in China) and ontological and epistemological paradigm that I hold. The focus of this qualitative study is on meaning and understanding. Also, the researcher is the primary instrument of data collection and analysis. The research is inductive on a whole. More specifically, the perceptions of TPI were given by the individual participants in the school, so the ontology of this study is that reality is created by individuals. From the epistemological paradigm, it is essential to discover the underlying meaning of TPIs. Therefore, a qualitative design is the most suitable for this study. Also, case study was selected as a guiding methodology because an in-depth study of a bounded system, the researched school, is needed here. The advantages of case study can be fully recognized, mainly by capturing the participants' viewpoints, giving a vivid and full description of what happened, and being well suited to attaining an understanding of the complex process of reshaping and transforming TPIs during curriculum innovation.

When it comes to the unit of analysis, the school as a whole is considered as the case. In order to gain an in-depth understanding of its teachers' professional identities, eight teachers in this school are deliberately invited to participate in this study. These participants differ in genders, subjects, or teaching experience, but the similarities discovered among them can provide inspiration for the big picture of the school.

In brief, the data mainly consist of the transcripts of interviews and answers from the questionnaires, along with some documents that are relevant to this study. It is worth pointing out that before the adoption of interviews, questionnaires were used among the participants to form a general picture of the TPI in the researched school and enabled the participants to prepare for the interviews. The interview data further explored the research questions and provided a deeper insight into the topic concerning TPI. As the major method, individual semi-structured interviews were conducted to explore the eight participants' inner world. The teachers' views were specified through a narrative approach. Lastly, the data obtained from various sources were compared and used to increase the trustworthiness with the method of triangulation. Specifically, data obtained from interviews could be compared to those from questionnaires and documents, hoping to confirm the emerging findings obtained in the interviews.

The data analysis began simultaneously with data collection and some basic analysis was done in the process of collecting data, hoping to make the follow-up data collection and analysis 'parsimonious and illuminating' (Merriam and Tisdell, 2015, p.197) and make some necessary adjustment accordingly. Guided by the research question, the approach of Thematic Analysis (TA) was utilized to summarize the data content, to identify, to analyze, and to interpret key features of data. Codes and themes were generated from accessible and systematic procedures of TA.

1.7 Significant findings

This study shows that similarities could be found among the participants in their reasons for the professional choice. They also shared views on teachers' responsibilities and roles in the Chinese senior secondary school, such as a transmitter of knowledge, a cultivator of students, the embodiment of culture and social value and a developer of professionalism. In addition, the participants agreed on some features of good teachers, such as kindness, aspiration, a sense of responsibility, the willingness and ability to teach. Accordingly, a big picture concerning the TPI of the whole school was drawn.

Diversity was seen when curriculum reform brought in some new elements and influenced the school and its teachers alike. The educational change led to various new versions of TPI, such as the Defender, the reflective thinker and practicer, the

designer of curriculum, the 'chameleon', the 'rebel', or the applicator of information technology. Hopefully, insights can be made into teachers' change amid curriculum reform in the current research context.

1.7.1 Contribution to theory

The study attempted to fill the 'gap' in literature mentioned previously. It provided implications about features of the Chinese TPI, some of which are unique in the senior secondary school in an urban area in East China. Also, the relevant change of TPI caused by China's curriculum reform was explored. Specifically, by comparing the version of TPI with those of other contexts in and out of China, similarities and differences were detected. It was inspiring to find that though teachers experienced various educational changes, part of their perceptions of TPI remained the same. However, teachers' roles and responsibilities did multiply amid curriculum reform. With these new elements of TPI in mind, researchers need to reshape the understanding of education as well as teachers.

1.7.2 Contribution to practice

This study had an impact on my practice as a teacher, especially when it comes to professional development. This would provide teachers with a method for developing professional identities, particularly in the context of curriculum reform, which is a norm in China. Also, a transformative experience might be useful for the school leaders and other schools that have the similar context. The leaders might

come to realize that teachers are a deciding factor in implementing educational reform as well as the most valuable resource of the school. Teachers are first and foremost human beings and their identities can be complicated and even contradictory. Hopefully, findings of this study can provide some inspiration for teachers in the senior secondary school, especially those faced with curriculum reform.

1.8 Road map

Background information has been provided in this chapter (introduction), followed by Chapter Two (literature review) focusing on an overview of the literature relevant to teachers' professional identity and curriculum reform. It also highlights two gaps in the literature concerning TPI: a paucity of studies that focus on China's senior high schools; a lack of studies concerning the influence of China's curriculum reform. Chapter Three (methodology and methods) explains and justifies the use of case study and interviews as the main methodology and methods. In this chapter, an overview of data analysis (Thematic Analysis) is also provided, and then the statement about ethics is included as well. The following two chapters present the participants' perceptions about TPI. Chapter Four focuses on the characteristics of the TPI, mainly by exploring the participants' reasons for choosing the profession of teaching, their major responsibilities and roles in the school, and their understanding of good teachers and Special Rank Teachers. The impact of curriculum reform on TPI is the focus of Chapter Five, of which the major body is categorized into the positive and negative groups of influence. This chapter also

includes the participants' views on the most impressive reform and the future development of curriculum. Chapter Six (discussion) concludes the thesis by synthesizing the data from the previous chapters, answering the research questions and state its contribution to the TPI literature as well as professional practice. Also, limitations of the study are discussed and potential directions for future research are outlined. In the final part, a personal reflection was provided to conclude the thesis.

Chapter 2:
Literature Review and Conceptual Framework

The major aim of a literature review is to discover how the current study can be relevant to the previous work in the researched area. Specifically, the multiple purposes of a literature review include providing historical background, addressing a 'gap' in the related field, discussing relevant theories and concepts which underpin the research, and justifying a researcher's choice of a particular approach to the research and the research methods (Ridley,2012). The historical background of the current study has been detailed in the previous introduction chapter. This chapter focuses on some major findings relevant to the research questions as well as some relevant key concepts. The follow-up methodology chapter will include literature concerning the research approach and methods. In this way, a literature review can open the possibility of drawing up a conceptual framework that can provide implications for the research design and data analysis.

As for the current study, the literature review chapter aims to explore how individual teachers shaped and transformed their professional identities in the context of curriculum reform. Attempting to provide a big picture for the first major research question (i.e. What characterizes the TPI in the researched school?), this section starts with the analysis of identity and TPI by integrating various relevant studies. The rest of this section focuses on how reform plays a role in the transformation of TPI, attempting to lay a solid foundation for the second research

question (i.e. How and why the TPI evolved in the curriculum reform during the studied period?). Key studies in various countries, such as the UK, Australia, South Africa, are explored as well, attempting to give some insights to the possible features and changes of TPI discovered in the current study.

2. 1 Defining identity

The notion of identity is concerned with individuals' perceptions of the self and its relationship to the outside world (Xu, 2013). Identities are understood as how people understand their relationship to the world, how that relationship is constructed across time and space, and how they understand possibilities for the future (Norton, 2000; Xu, 2013). Also, identity can be used as an analytic frame, helping to examine different aspects of teaching, such as the ways in which students integrate a range of influences, and the necessary confronting of tensions and contradictions in their careers. Also, it can be viewed as a consolidating constituent in teachers' professional life, and a resource to help explain, justify and make sense of themselves in relation to others and to the world at large (Esmaili & Dastgoshadeh, 2016).

The study of identity originated from social sciences and philosophy (Beijaard et al., 2004). Issues concerning the formation of identity have constantly been under discussion and debate since Aristotle (Zembylas, 2003). Inevitably, the conceptualization of identity has undergone some shifts. At first, the concept of

identity was not clearly defined and tended to be associated with other relevant

terms in some early research, such as 'the self' or one's self-concept (Beijaard,

Verloop and Vermunt, 2000, p.750). Besides, 'self' is considered to be singular,

fixed, stable, and decontextualised. From this perspective, the impact of the

environment on one's identity is ignored, so the formation of identity is much of an

internalized process, focusing on the individual and 'self-reflections' (Zembylas,

2003, p. 111). This psychological way of identity formation was considered as the

root of the personal aspect of identity.

However, these early views were challenged as it was difficult to explain why

behaviors are diverse and changeable depending on the context. Researchers

began to realize that identity is not only **individual**, but also **social**. Accordingly,

the concepts of identity shifted greatly. Many researchers agreed that one's identity

interacted with one's surroundings, and it kept developing throughout people's life

(Beijaard et al., 2004). Evidently, interaction became an essential term in defining

identity. Words like 'dynamic, continually changing, and active' are frequently used

to describe identity, since identity is defined an **_ongoing_** process, which develops

continuously through interaction with others (Beijarrd et al.,2004). These findings

were echoed by Zembylas (2003), who believed that individuals interplayed with

society and culture, thus resulting in the formation of people's social and cultural

identity. In the research concerning identity, the social interplay between the

individual and the larger environment or community ought to be taken into

consideration (Wenger, 1998). All these studies indicated that identity was continuously under development, especially in the context of changes.

In the development of conceptualizing identity, other characteristics of identity were discovered, among which being '**multiple**' was an important one (Berg & Schulze, 2014). This was echoed by researchers like Mishler (1999), who suggested the existence of 'sub-identities'. A metaphor was used to further explain the multiplicity of identity: the selves are like 'a chorus of voices' instead of 'the tenor or soprano solist' (Mishler, 1999; Berjaard et al., 2004). The core idea was that a person's different sub-identities interacted with each other as well as with the environment, and consequently constitute his/her identity as a unity.

Identity is also **strategic**. People feel threatened when facing changes, so strategies are developed to protect themselves from changing their previous identities (Nias, 1989). Despite such strategic responses to changes, people develop or adjust themselves or eventually change their identity (Beijaard, Verloop, and Vermunt, 2000). This explains why some teachers are likely to feel negative when facing changes. As the reform is an externally imposed force to promote changes, if teachers dislike the change or lack the ability to face it, they tend to protect their previous identity and thus define the curriculum change as some constraints.

Identity change is defined as an active socio-psychological process of meaning negotiation between the individual and the surrounding sociocultural contexts. Identity change can be influenced by various factors, which can be categorized into two main types: contextual factors (*e.g.* work setting, policies and cultural background) and internal factors (*e.g.* motivation, agency, and interactions or conflicts between the individual's multiple sub-identities) (Xu, 2013). These factors decide the change of TPI and can help understand the cause of teacher change.

2.2 Teacher's professional identity (TPI)

The professional identity has been widely acknowledged as a driving force to create an effective teacher. Valuable research found that a sense of professional identity contributed to teachers' 'self-efficacy, motivation, commitment and job satisfaction' (Flores and Day, 2006; Day, Sammons and Stobart, 2007). Features of identity itself could be traced in TPI.

Existing studies showed that the concepts of TPI were defined differently by various researchers and for different research purposes (Beijaard et al., 2004). Among these concepts, two perspectives prevailed (Tickle, 2000; Lee, Huang, Law and Wang, 2015). One was that TPI referred to the image of teachers that was widely accepted and well received in society, based on the general concept of what a teacher should be and what role a teacher should play. The other perspective indicated that TPI was how teachers viewed themselves as teachers and how they

were recognized as such (Beijaard et al., 2004; Beijaard et al., 2000). This study attempted to combine both of the two perspectives, while more attention was fixed on the second one by exploring the teachers' own perceptions of TPI.

Researchers mostly agreed that TPI was an ongoing process of integration, an ever-changing process of interaction, and an evolving process of interpretation. Some experts compared TPI to a multifaceted chorus. Detailed discussions are provided as follows.

Teachers' professional identity as an ongoing process of integration

Teachers' professional identity consists of 'personal' and the 'professional' identity. A teacher's personal life experiences could affect his/her professional selves (Ball & Goodson, 1985; Hargreaves & Goodson, 1996; Day, 2002). Goodson and Cole (1994) affirmed that teachers were both persons and professionals, and the two roles were influenced by what happened in and out of their teaching sites (Beijaard et al. 2004). Another important argument is that the professional identity as well as teachers' personal identity 'evolves' over time (Kelchtermans, 1993; Day 2002, P. 683).

In educational changes, the way teachers personally perceive good teachers may be different from what the educational reform advocates. In other words, the 'personal' and the 'professional' sides of identity are divergent. Such conflicts can

result in teachers' confusion in understanding their professional identity (Beijarrd et al., 2004, p.109).

Teachers' professional identity as an ever-changing process of interaction

In line with the nature of identity, teachers' professional identity is both individual and social. The context where teachers work is crucial (Berg and Schulze, 2014). For instance, professional identity can be shaped and reshaped by the school or by external changes like reforms (Lasky, 2005).

Teachers' professional identity as an evolving process of interpretation

The complexity and dynamics of teachers' perceptions of professional identity were partly due to their constantly changeable understanding of teachers' roles. Teachers felt there exist some roles that they had to play. It involved a process of arguing and then redefining an identity that was influenced by their settings (Beijaard et al., 2004). This opinion was echoed by Day (1999), who believed that teachers' professional development never stopped. During the process of interpreting and reinterpreting themselves as teachers, their insights into good teachers deepened. The shifts in their mind changed teachers' decisions or behavior, thus making the professionalism possible.

Teachers' professional identity as a multifaceted 'chorus'

As was mentioned previously, identity could be compared to 'chorus' (Mishler, 1999, P.8), consisting of various sub-identities. This nature of identity was also reflected in the concept of TPI. 'Multifaceted' was used to describe this feature of professional identity (Cooper & Olson, 1996). In this sense, how teachers perceive themselves as teachers can be affected by various factors, such historical, sociological, psychological, and cultural elements. Also, it is not surprising that teachers may take on different identities in response to different social contexts, such as curriculum reform.

Day and Kington (2008) asserted that teachers' identity was composed of three sub-identities: professional identity, situated or socially located identity within a specified school/ department/ classroom, and personal identity. This classification provided clarification to the analysis of impact factors in the professional identity of frontline teachers in the current study. Based on relevant theories and empirical data obtained from this study, the interaction of impact factors evolved along with the personal experience, educational policies, and institutional contexts.

Situational and social factors refer to elements mainly found in a specific school. Apart from leadership, support and feedback, these factors include local or national policies that keep reshaping teachers' changing roles and responsibilities as well (Lee et al., 2015). This was echoed by other researchers who agreed that a teacher's identity was related to the impact of macro policies or curriculum change.

The requirements of macro policy or curriculum reform definitely exerted a fundamental impact on teachers' professional identities and their emotional reactions toward changes imposed by external agencies (Day, Kington, Stobart and Sammons, 2006; Lasky, 2005; Lee et al., 2015).

2.3 Components of TPI

The complexity of professional identity led to a variety of components, which were classified by different researchers. Key studies categorized several factors concerning TPI, including knowledge and beliefs, value, efficacy, commitment, and emotions (Hong, 2010). Similarly, a set of identity elements were found by other researchers, such as teachers' self-images, job motivation, perceptions of teaching, subject and subject pedagogy (van Veen & Sleegers, 2009; Lee and Yin, 2011).

Inspired by Berger and Le Van (2019), the components closely relevant to the current study could be those related with general pedagogical beliefs. General pedagogical beliefs refer to the beliefs about the nature of education, teaching and learning (Chan & Elliott, 2004), and they strongly determine teaching practice (Richardson, 1996). Some major components of TPI were chosen: motivation to become a teacher, self-efficacy beliefs, sense of responsibility, affective commitment and perception of expertise, etc. The main reason for this selection is that these components are distinct and complementary aspects of identity. Also, a broad view of TPI is provided as well: why a teaching career was chosen, how one

perceives her/his capacity in the profession, which moral values one attributes to the profession, how one is engaged as a professional and how one perceives his/her own areas of expertise in teaching. These aspects helped to constitute the key questions in the questionnaires and semi-structured interviews.

It is worth pointing out that the elements of TPIs were constantly contested and under transforming shifts (Zembylas, 2003), and were often at stake in the context of reform (Lee & Yin, 2011). In that case, difference in TPI could not only be found among different teachers but also within an individual teacher. These features are consistent with those of identity discussed in the previous sections, such as being 'social', 'multiple'.

Accordingly, teachers' awareness of the relation between his/her personality and profession can be explored by asking them the reason for their choice of becoming a teacher. Besides, teachers' professional ambitions can be detected by asking whether they hope to become a 'Special Rank Teacher (SRT)' (*teji jiaoshi*, 特级教师) in China.

2.3.1 Teacher knowledge

'Teacher knowledge' is considered as the product of teacher thinking, which is also closely related with teachers' professional action (Zhu, 2007). Teacher knowledge is classified from two perspectives: a propositional and a practice-oriented stance.

Here three inter-relevant elements will be focused: teachers' professional knowledge, teachers' pedagogical content knowledge and knowledge of self. Much attention should be given to pedagogical content knowledge (PCK), which is defined by Shulman (1986, 1987) as a form of formal and specific content knowledge that builds on both subject matter knowledge and knowledge of pedagogy. PCK consists of six components: conception of teaching purposes, curricular knowledge, subject matter knowledge, knowledge of learners, knowledge of pedagogy, knowledge of self and PCK development. Knowledge of self, one component of PCK, serves as an essential knowledge base for teaching. This kind of knowledge comprises both personal and professional senses of teachers, which can help them understand the nature of their profession.

Research on teacher knowledge in practice focuses on many topics. This study concentrates on teachers' knowledge of their professional identity, i.e., how they perceive themselves as teachers and what factors contribute to these perceptions. Though identity itself is still a poorly defined concept, an increasing number of researchers are exploring this topic in the field of teaching. Teachers' perceptions of their own professional identity affect their efficacy and professional development as well as their ability and willingness to cope with educational change and to implement innovations in their own teaching practice (Beijaard et al., 2000).

This exploratory study deals with the teacher's perception. In our research, it can be defined as representations of their understandings of their own professional identity (Atkinson, Smith and Hilgard, 1987). From this point of view, we assumed that teachers' perceptions of their professional identity reflected their personal knowledge of this identity (Beijaard et al., 2000).

2.3.2 Teacher belief

The literature about teacher belief indicated that beliefs were 'acquired as a result of the variety of experiences one is afforded' (Murphy, Delli and Edwards, 2004, p.71). Beliefs were grounded in TPI (Richardson, 1996). Exploring what teachers thought, knew and believed has been a focus of educational research since the 1970s. Substantial evidence indicated that teachers' beliefs were 'complex', 'dynamic', 'context-sensitive' and 'systematic' (Borg, 2006; Feryok, 2010). Teachers' beliefs were thought to be contextualized and the context mediated and shaped teachers' beliefs (Borg, 2006). Other researchers agreed that the teacher belief was a mediator for experiencing, negotiating and responding to the environment. In turn, teachers' beliefs were shaped by complex external factors in the situated context. Therefore, teachers' beliefs were a product of a dynamic and evolving socio-culture. Qualitative differences were found among teachers' beliefs, so changes were likely to appear in the relationship between beliefs and practice due to the interaction of these beliefs (Zheng, 2015).

The rationale for complexity and dynamics of teachers' beliefs is that a belief system consists of substructures of beliefs. These beliefs are not always logically structured (Zheng, 2015) and can be conflicting and even contrasting, thus making the belief system more complex (Bryan, 2003). The belief systems tend to contain primary and derivative beliefs, central and peripheral beliefs, beliefs with varying degrees of conviction (Green, 1971; Brownlee, Boulton, Gillian and Purdie, 2002; Thompson, 1992).

Teachers' beliefs or theories, implicit or explicit, form a part of a teacher's pedagogy, which refers to the beliefs and practices of individual teachers in preparing, delivering and evaluating lessons. Pedagogy can be considered as the bridge between the intended and the implemented curriculum, making teachers crucial agents in the curriculum process (Zheng, 2005). According to Kagan (1992), a teacher's personalized pedagogy or belief system was mainly formed by his or her professional knowledge. This actually constrained the teacher's perception, judgment, and behavior. According to Zheng (2005), a teacher's knowledge of his/her profession was situated in three important ways: in context (it is related to specific groups of students), in content (it is related to particular academic material to be taught), and in person (it is embedded within the teacher's unique belief system.

Teacher ideology

Ideologies are the foundation of the social beliefs shared by a social group and that group members use ideologies to 'guide their interpretations, discourses and other social practices in a specific social domain', thus 'stressing their complex, diverse, cognitive and social nature' (Van Dijk, 1996, p.8). Schools were viewed as highly diverse social contexts and 'particularly revealing sites' (Heller, 1999, p.337) of struggle among different groups and competing ideologies.

For pedagogies to change, some aspects were encouraged to give deep reflective thinking for teachers who undertake professional development: about what they bring with them, what their professional programs offer and what their teaching contexts expect (Robertson, Macdonald & Nicholas, 2018). This was supported by Alexander (2013), who held that teachers should think over the contextualization of their practices and keep learning if they want to change their pedagogies. Such reflections are essential to create contexts in professional development, because they can carefully scaffold connections between new knowledge and future practices (Lipponen & Kumpulainen, 2011). The need for professional development can be met by adopting the approach to pedagogy, and a dialogic space can be created where teachers can negotiate their understandings related to content, contexts and teaching with one another and personalise their professional growth. Pedagogy was seen as multifaceted and fluid, involving flexible approaches, nuanced in principled ways to connect teacher, learner and context. There is no single supermethod that can be adopted to teach a particular aspect of content or

a set of capabilities. Complex choices need to be carefully contextualized and related to clearly articulated purposes.

2.3.3 Teacher attitude

An attitude refers to a tendency, which can react positively or negatively towards a certain object (Nel, Muller, Hugo, Helldin, Backmann, Dwyer & Skarlind, 2011). Attitudes are closely related to one's views, previous experiences and interaction with others. Teachers' attitude can depend on their existing perception and practices of teaching, as well as motivation, job satisfactions, etc.

Diversity of teacher attitude can be seen when the external environment changes. For example, if a new curriculum reform is advocated in a school, the teachers can respond differently to the same reform. These different attitudes can in turn influence the implementation of the reform as well as the individual teachers' professional identity.

Teacher cognition was defined by Borg and Burns (2008) as the study of what teachers know, think, and believe and how these relate to what teachers do. Borg (2006) explained that teacher cognition was often tacit and that such cognition was a personally-held practical system of mental constructs and was dynamic, as it was defined and refined on the basis of educational and professional experiences throughout teachers' life.

2.3.4 Teacher practice

Evidence from a range of studies highlighted that the inconsistency between teachers' professional beliefs and their practice was often due to the constraint of contextual factors (Crookes & Arakaki, 1999; Lim & Torr, 2007; Richards & Pennington, 1998; Zheng, 2015).

According to Zheng (2015), the complexity lies in the relationship between the teachers' beliefs and practice, which changes all the time. The major reason is that the teachers' belief system is not isolated but connected to a dynamic context of education reform. In many cases, more than one belief underpinned a practice. These beliefs dynamically interacted with each other in particular teaching contexts. They might either be compatible with, or contradictory to, each other, exerting different influences on the teachers' practice according to different contexts. The teachers' practice seemed to be in fact determined by a combination of a range of compatible beliefs, which indicated that different beliefs were consistent and co-exist in underpinning practice without causing conflict. Besides, the consistency between the teachers' professed beliefs and practice could be superficial. In other words, the teachers might claim to have adopted an officially promoted teaching concept, but in essence they did not change their teaching practice. This phenomenon is called the practice of 'token adoption'.

2.3.5 Agency

Agency is considered as an indispensable element of TPI (Coldron and Smith, 1999), which indicates that teachers should be active learners and form their professional identity through continuous interaction with other people and contexts (Beijaard et al., 2004). One focus of the current study is on how the TPIs were reshaped in curriculum reform, so it was inevitable to take agency into account and explore whether and how the participant teachers became active learners and interacted with the changing context.

Qian and Walker (2013) described some characteristics of the Chinese context. Before the 2001 and subsequent curriculum reform, the Chinese education system featured 'centralised' and teachers were considered 'good' if they managed to convey knowledge to students through completing the formal teaching plan (p.86). However, since the introduction of the new curriculum reform, schools were encouraged to adopt student-centered approaches to learning and teaching. Teachers were expected to develop new capacities and skills. How teaching should be conceptualized and valued changed. Agency can play its role. If the teacher is active and engaged in a deliberate and on-going process of unlearning, learning and relearning to meet the curriculum reform requirements, the implementation of the reform will be realized in practice. Otherwise, teachers will remain influenced by the teacher-centered norms, and their TPIs remain the same as that of the pre-

reform period. This study intends to gain some insights of the participants' various

performances when it comes to agency.

In brief, it is worth pointing out that different identity elements are interwoven in

interactions among personal, professional, situational, and social factors of TPI

(Day and Kington, 2008). These elements are to be taken into account in the

interview questions designed to explore the TPI in the researched school.

2.4 The role of curriculum reform

Reform does not only change what people, as educators, scholars and researchers

do, it changes who they are as well (Ball, 2003). Curriculum reform can influence

TPI to a large extent. In this section, some key ideas relevant to reform, such as

performativity, are explored first. Then interplay between teachers' professional

identity and curriculum reform is discussed at the international level. The focus

then shifts to China's context. Interaction between reform and TPI at the school

level and at the teacher level is explored in the final section.

2.4.1 Curriculum reform

Educational reforms, especially large-scale ones, are one of the most important

situational factors influencing teachers' identity construction and transformation.

TPI will be affected by external factors including policy requirements and features

of school organization, and their internal and personal experiences such as their beliefs, values, biography (Lee and Yin, 2011).

To explore the nature of change in education, Fullan (1992) stated that the essence of educational change was putting something new into practice. Educational changes tended to occur with several dimensions, including the possible use of new or revised materials, teaching approaches, and/or alteration of beliefs. If all three dimensions are covered, an innovation is considered a complex one instead of a minor change. More importantly, the complexity of innovation depends on the innovation itself and the individual teacher's current materials, strategies and beliefs (Zheng, 2005).

Fullan (1992) also proposed that educational change represented a developmental process of change embracing three broad phases. Phase I involved a decision to initiate a change. Phase II featured implementation or initial use of reform into practice. Phases III was about whether the change would continue or disappear. Among them, the decisions to adopt a change and the factors influencing the successful implementation of reform were crucial. Fullan (1992) thus suggested three clusters of indicators associated with adoption of change: relevance, readiness, and resources (Zheng, 2005). In this study, the change of TPIs was detected by exploring to what extent the participants perceived curriculum reform in their belief and how they implemented reform in their teaching practice.

2.4.2 Performativity of reform

In the process of reform, performativity, the market and managerialism are the three interrelated policy technologies, and they are closely inter-dependent. When deployed together, the new technologies produce a devolved environment which features a shift by central management bodies toward setting the overall framework rather than micromanaging and changes in attitudes and behavior on both sides. A good example is the decentralization encouraged by China's 2001 curriculum reform.

It is widely accepted that the construction, sustaining and renewal of identity is crucial in the implementing of school reforms. Teachers' different perceptions of professional identity can lead to their different responses and abilities to cope with reform (Day, 2002). Educational reform can affect formation and transformation of teachers' identity. This is approved by Lasky (2005), who believed that the reform context was one of the two meditational systems that affected TPI. Reforms can have an impact on core elements of TPIs: (1) motivation and commitment; (2) beliefs, ideologies and personal and professional values; and (3) efficacy and job satisfaction. Also, it needs to be clarified that how reforms are received, adopted, adapted and sustained largely depends on the extent to which reform challenges teachers' existing identities (Day, 2002). So it is possible and important to explore TPI in the context of changes, or to be more specific, the curriculum reform.

2.4.3 Different models of reform implementation

In most educational systems, implementing reform into complex ecology of schools was difficult. Management of change played a crucial role in creating the conditions for reform implementation. The organizational structures and process of a school and teachers' professional interactions affected the extent to which teachers were able to apply their understandings. The role played by school management and teachers is important, since significant curriculum change is dependent on how it is understood and used by teachers and how the change is incorporated within the structures and culture of the school (Adamson & Morris, 2000).

In general, educational change can be initiated in two distinct ways. One model is defined as 'top-down', referring to the reforms initiated by policy makers and featuring finding ways of assisting schools to implement a particular innovation. The other form of change is regarded as 'bottom-up', which is initiated by teachers and often undertaken with outside support. Regardless of the direction of change, all real changes include loss, anxiety and struggle (Fullan, 1992). If the reforms are to take root, there is a need to transform teacher beliefs, commitment and capacity (Yin, 2015). Transformation of this kind is directly linked to effective teacher development which can help teachers understand and translate new curriculum principles into a set of workable classroom practice (Xu, 2013).

The top-down model

This model features hierarchical form of implementation. Curriculum reform is often initiated or required by the principal or panel chairperson in a school context. If school change is to occur, teachers must be provided with opportunities to process and adapt to the reform. In other words, teachers' personal and practical understanding of teaching is to change.

However, if the teachers do not perceive their ownership of the reform, they will be ineffective in bringing about pedagogical change. Potential disadvantages of top-down approach to curriculum change might appear. There is little bottom-up evolution of the interpretation of the reform. A lack of professional dialogue can be seen among teachers, which is crucial in enhancing curriculum reform and little enthusiasm can be detected on the part of teacher (Adamson and Morris, 2000).

The bottom-up model

Bottom-up influences in school curriculum reform are important (Adamson and Morris, 2000). Specifically, greater teacher initiative and autonomy could generate a greater capacity for innovation on the part of schools. However, bottom-up initiatives alone are not enough. The stakeholders should support, from the organizational hierarchy, to complement pedagogical change with systemic change. Teachers tend to adopt the rhetoric of reform, since they may feel exposed if they are the pioneers of change.

2.5 Teacher change and different versions of TPI

Teacher development and educational reform go hand in hand (Fullan & Hargreaves, 1992; Yin, 2015). Teacher change requires contexts and conditions, which tend to be provided by reform. Besides, the success of educational reform needs teachers' involvement and their successful professional growth (Yin, 2015). Within these models of reform implementation, teacher change is inevitably to occur, and in turn the change or innovation can transform teacher's professional identity.

2.5.1 Teacher change

Teacher change refers to the change in teacher beliefs, understandings, and/or practice. Researchers generally agree that professional development should include active learning and a strong content focus, be coherent and of a significant duration, and involve collective participation (Whitworth & Chiu, 2015). Besides, a close connection between reform, national curricula and teachers' professional identity is detected in Woods and Jeffrey's study (2002), which focuses on the changing teacher identities.

To assess the changes in teachers' attitudes and teaching experience during the curriculum reform, the study can be inspired by the conceptual model of teacher change proposed by Guskey (2002) shown in Fig. 1. Teachers change their beliefs

and attitudes toward a new teaching approach or toward a new curriculum after

they see it work, Guskey argued.
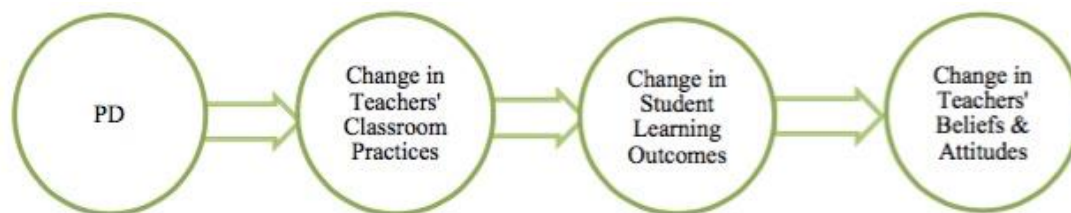
Figure. 2.1 A model of teacher change

Primarily, significant changes in teachers' attitudes and beliefs occurred after they

gained evidence of improvements in student learning. These improvements

typically resulted from changes that teachers made in their classroom practices - a

new instructional approach, the use of new materials or curricula, or simply a

modification in teaching procedures or classroom format. Briefly, the experience of

successful implementation, rather than the PD (Professional Development) per se,

is the deciding factor that changes teachers' attitudes and beliefs. This can well

explain the difference among teachers in response to the same curriculum reforms.

Though they are similar in implementation, the different results that teachers later

see in their classroom as well as their students' outcomes can directly lead to their

different attitudes, thus influencing their teaching practice respectively.

Other research indicated that changes in classroom practices were determined by

teachers' commitment to the initiatives undertaken and the processes of

implementation, largely influenced by the levels of their teaching satisfaction (Ma

& MacMillan 1999) and resistance to change (Smith 2004; 2005). The influence of resistance to change on curricular implementation was highlighted by Goodlad (1983) asserting:

In practice, however, teachers cling to conventional teaching practices because of the circumstances of their classrooms, and the models with which they are most familiar. …Teachers often respond eagerly to alternative methods of teaching that relate to many of their deepest professional values when they are giving support, encouragement, and protection.

Professional practice in teaching and the length of time in service to develop and refine practices were mentioned by Goodlad. Researchers might expect differences between less and more experienced teachers. Therefore, it was possible that the length of time as a professional educator might impact teachers' resistance to change or implementation of a curricular innovation.

Change will be hindered if teachers are not given enough opportunities for professional development. When a curriculum reform was implemented, some implications for teacher change or problems do appear. For instance, although some teachers in Hong Kong attended workshops concerning a curriculum reform, there was no obvious or explicit culture of professional exchange for them to share the experiences with others. The rigid teaching schedule and assessment syllabus

were other factors that stifled the opportunities. Not having the skills to overcome the problems, the teachers had no choice but to follow the familiar pedagogy, performing the role of authority and transmitter of knowledge (Adamson and Yin, 2008).

2.5.2 Different elements of TPI transformation in oversea studies

Internationally, the interweaving relations between curriculum reforms and teachers' professional identities are recognised in many contexts. In the UK, 'professional dilemmas' are experienced by teachers in the curriculum reform (Silcock, 1990). In the Australian context, the importance of curriculum in teacher's work is highlighted. Also, how teachers interpret and adapt to curriculum reform is considered to be central in their work. Australian teachers should not only be the implementers of curricula, but also the 'targets and the agents of curriculum reform' (Gerrard & Farrell, 2014, p. 639). Despite the recognition of TPIs, the secondary education elsewhere faces similar challenges outside China.

Also, educational reforms produced negative emotions in many countries. (Ball, 2003) For instance, in some European countries, teachers' negative feelings like 'stress, fatigue and burnout' were on the rise since the adoption of reform (Day et al., 2007, p.564). These findings were further explained by Jansen's (2001) identification of identity conflict, which was often caused by a gap between policy makers and classroom practitioners. In other words, if the images of teachers

advocated in curriculum documents are far too different from teachers' own views of themselves as professionals, reforms will be difficult to implement in practice and teachers are easy to experience hopelessness or helplessness (Berg and Schulze, 2014).

In response to various emotions formed in reform, some concepts concerning TPI have been emphasized in curriculum policies to bring about some positive changes. For instance, 'teacher commitment' is focused. In particular, in some societies like England and Australia, much emphasis was placed on teachers' loss of commitment (Day, 2002).

In the study done by Berg and Schulze (2014, p. 61) in the South African educational reform, three key strategies are suggested for teachers to cope with curriculum reforms:

   - lifelong learning through reflection;

   - lifelong learning from others; and

   - replacing previous practices with innovative ways of teaching.

2.5.3 Versions of TPI in the Chinese context

Teachers are expected to function as school-based curriculum developers/leaders, active implementers of innovative teaching practices, and facilitators of student learning. The answers of frontline teachers to what a teacher should be during

curriculum reform and how they make sense of their role in the implementation of the new curriculum can influence their actions and participation. On the one hand, teachers may carry the weight of the expectations of the stakeholders, especially the policy makers and school administrators, in implementing the curriculum reform faithfully and successfully (Lee et al., 2015).

Some studies demonstrate that, similar to their counterparts in other contexts, many Chinese teachers experienced some similar changes of professional identity as well as feelings when facing curriculum reforms. For instance, feeling 'unsure' is common among teachers when implementing the new curriculum (Guan & Meng, 2007). Similar to other contexts, China's secondary school teachers experienced dilemmas or conflicts during some faltering movements of reform in practice (Law, 2014). However, teachers are often confined to their specific culture. Not surprisingly, some distinctive features were found among the Chinese teachers, most of whom often did not respond as extremely as those in other countries, but showed a huge degree of complexity and dynamics in their professional identities amid curriculum reform.

2.5.3.1 Lee and Yin's Three Types of Teachers

Though the TPI discovered in the current study is different from those in the previous research, the three types of teachers categorized by Lee and Yin (2011, p.36) provided much inspiration. The three types of TPIs were formed in China's

new curriculum reform, each having different features. In particular, the key questions of the questionnaires and semi-structured interviews were based on this study as follows.

The losing heart accommodators passionately welcome the new curriculum reform at first, but later lose enthusiasm when implementing reform. They often feel confused about how to define a good teacher, and usually suffer a feeling of helplessness. The origin of their changing identity can be like this. Initially, the new reform's highlighting the whole-person development of students is agreed by their value concerning good teachers. But they still believe that teachers should try to improve students' academic achievements, which is in conflict with the current curriculum reform, so they gradually abandoned the implementation of curriculum reform.

The drifting followers only follow what is required by reform policies, but see no significance in reform. Their understanding of teachers' role in reform seemed passive: teachers are just 'a spare part' of reform. For them, to adapt to and follow policy changes is what teachers should do. They dislike reform since it brings extra burden to teachers.

The cynical performers emotionally resist the reform strongly, and believe the reform will become a failure. Behaviorally, they adopt new curriculum policies

because they want to give a good impression to the outside inspectors of curriculum implementation. The essence of curriculum reform does not persuade them to change their professional identity. Also, they believe that trying to keep up with the trend of reform is what a teacher should do, so they decide to take on a different identity when external inspectors arrive.

2.5.3.2 Lee et al.'s Four Types of Teachers

Based on the practical and emotional reaction of the informants in their study, Lee et al. (2015) described four types of teachers: the contradictory performers, active explorers, reform leaders and novice strugglers.

Contradictory performers are 'passive' or 'conservative' and tend to feel painful or helpless during curriculum reform. The requirements of the reform are not completely agreed by this group of teachers, so they often 'perform' practices in accordance with curriculum reform, especially when inspected by school administrators.

Active explorers include those who are not satisfied with traditional teaching models and thus dedicate to utilizing new teaching strategies suggested by curriculum reform. However, their initial passion in exploration may later be replaced by the confusion created by their belief that the educational change is unsustainable.

Reform leaders are responsible to organize reform activities and often perform excellently in curriculum reform, so they are considered as 'reform models'. They themselves often feel happy but exhausted. The happiness mainly comes from a sense of achievement, especially when they conduct and lead some innovative methods of instruction in school. Simultaneously, the extra workload, stress or lack of support from the school often makes these teachers feel burn out.

Novice strugglers refer to those who have several years of teaching experience and their own teaching belief or professional image has not been formed. It is comparatively easy to convince this type of teachers to accept curriculum reform. However, the effectiveness of their implementing the reform is uncertain, mainly due to their professional abilities as well as a lack of experience to solve some unexpected problems.

2.5.3.3 Windschitl's Four Types of Dilemmas

Windschitl (2002) put forward a conceptual framework that is closely linked to the classroom teachers' practice. When it comes to the disconnection between theoretical ideals of constructivism and the practice in school settings, four types of dilemmas are classified: conceptual dilemmas, pedagogical dilemmas, cultural dilemmas and political dilemmas. Among them, conceptual dilemmas are rooted in teachers' attempts to understand the theoretical underpinnings of constructivism.

Pedagogical dilemmas emerge from the complex approaches to designing curriculum and creating learning experiences that constructivism demands. Cultural dilemmas can be found between teachers and students during radical reorientation of classroom roles and expectations. When norms and authorities are questioned, political dilemmas are associated with resistance from various stakeholders in school communities (p.56).

The multiplicity of sources of dilemmas in educational reforms calls for researchers' attention. Also, the dynamic interactions between the reform ideals and teachers' lived experiences in school settings should be noticed (Yin, 2015).

In many aspects, teachers are dilemma managers, balancing a variety of interests that need to be satisfied in classrooms (Lampert, 1985; Yin, 2015). Teachers always need to assume the role expectations of various people. As a result, the multiple identities of teachers and the contingencies of classroom have the potential to create dilemmas for teachers. When teachers encounter these dilemmas, the process of reconciliation of these tensions and conflicts often draws on their sense of whom they are (Enyedy, Goldberg and Welsh, 2006; Yin, 2015). The widespread existence of dilemmas in teaching puts forward challenges for teachers' professional development. Conceptualizing teacher development needs to include several interlocking elements: self, craft, relationships, values and ways of knowing (Lyons, 1990; Yin, 2015).

According to Roblin and Margalef (2013), there existed two kinds of dilemmas. One is intrapersonal dilemmas which have to do with conflicts in teachers' personal beliefs about curriculum, student learning, teacher strategies and assessment. The other is interpersonal dilemmas which have to do with the tensions resulting from teacher collaboration, and more specifically with the need to align with individual goals, beliefs and teaching styles with those of the group.

2.5.3.4 An analytical framework

By comparing the findings of the above studies, a conceptual framework can be drawn up that can inform the research design and data analysis. In particular, the questionnaires and interviews of the current study can include questions inspired by these findings, including how to define a good teacher, how to understand teachers' roles in reform, how to perceive the curriculum reform, and how and why teachers' emotions and teaching practice changed in curriculum reforms. Questions in questionnaires and interviews (see Appendix 1 and 2) are closely related to these implications, which will be detailed as follows.

Lee and Yin (2011) described three major types of secondary school teachers who were faced with curriculum reforms in Guangzhou, capital of South China's Guangdong Province. In essence, all of these teachers abandoned the

implementation of curriculum reform. Anyway, they showed diversity in their emotions and performances. Some factors that influenced a teacher's professional identity can be found. Also, some ways were detected to help decide some characteristics TPI.

Lee et al. (2015) focused on four types of frontline teachers' emotions and teaching practice when it comes to their responses to the curriculum reform implemented in Shenzhen, a coastal and special economic zone in South China. Similarities were found between these four types of teachers and Lee and Yin's three types of teachers, i.e. the losing heart accommodators, the drifting followers and the cynical performers. For example, the contradictory performers and the drifting followers shared similar emotions like painful, passive, confused. Also, similar performances were found among the contradictory performer and the cynical perform when both groups of teachers were inspected by the authority such as outside inspectors or school administrators. As for the similarities between the active explorers, the reform leaders and the losing heart accommodators, they all attempted to utilize new teaching strategies suggested by the curriculum reform. Then the active explorer and the losing heart accommodator experienced similar changes of emotions: both of them gradually lost initial passion and faced some confusion later. By contrast, a mixed feeling of happiness and exhaustion remained among the reform leaders. Their happiness came from a sense of achievement because of conducting and leading innovative methods of instruction while their fatigue was

largely due to extra workload or stress. Lastly, findings about the novice strugglers

reminded me that this group of young teachers should be included into the current

study, though they had little experience in the educational reform.

Windschitl (2002) described dilemmas as 'aspects of teacher's intellectual and lived

experiences that prevent theoretical ideals of constructivism from being realized in

practice in school settings' (p.132). He detailed four major types of reasons behind

these dilemmas: conceptual dilemmas, pedagogical dilemmas, cultural dilemmas

and political dilemmas. By comparing Windschitl's theoretical findings with Lee and

Yin's and Lee et al.'s studies, some links between the dilemmas framework and the

various types of teachers' practice can be seen. For instance, one potential reason

why the losing heart accommodators and the active explorers lost initial passion in

educational change was that: they met pedagogical dilemmas when adopting some

complex approach in order to design curriculum or create learning experiences.

Cultural dilemmas could be experienced when the classroom roles and expectations

were changed by educational reforms, thus helping explain why the losing heart

accommodators feel confused about how to define a good teacher and why the

drifting followers have passive understanding of teachers' role in reform.

In brief, the types of teachers and the dilemmas were actually related to one

another in some aspects. Inspired by the comparison made above, an analytical

framework has been drawn up (See Figure 2.2). This framework is used to guide

the research design, such as the contents of the questionnaire and interview questions. Also, it informed the analysis of data.

Figure 2.2 An analytical framework of TPI in curriculum reform

2.6 Summary of chapter

This chapter began by exploring existing approaches to identity. Mainly inspired by researchers such as Beijaard (2000; 2004), Day (1999; 2002; 2007; 2008) and Zembylas (2003), I chose to synthesise various perspectives in order to ensure that the conceptualization of identity would have practical utility for professional development purposes, and would also be nuanced enough to accommodate the complexity of identity as an open-ended process. Key features of identity were found, such as being 'individual', 'social', 'multiple' and 'strategic'.

Though identity construction was conceptualised as discursive in nature, I chose to focus on some areas that resonated with my own experiences of being a senior high school teacher. Taking some key researchers' guide, I attempted to construct a framework for identifying TPI (See *Diagram 1*).
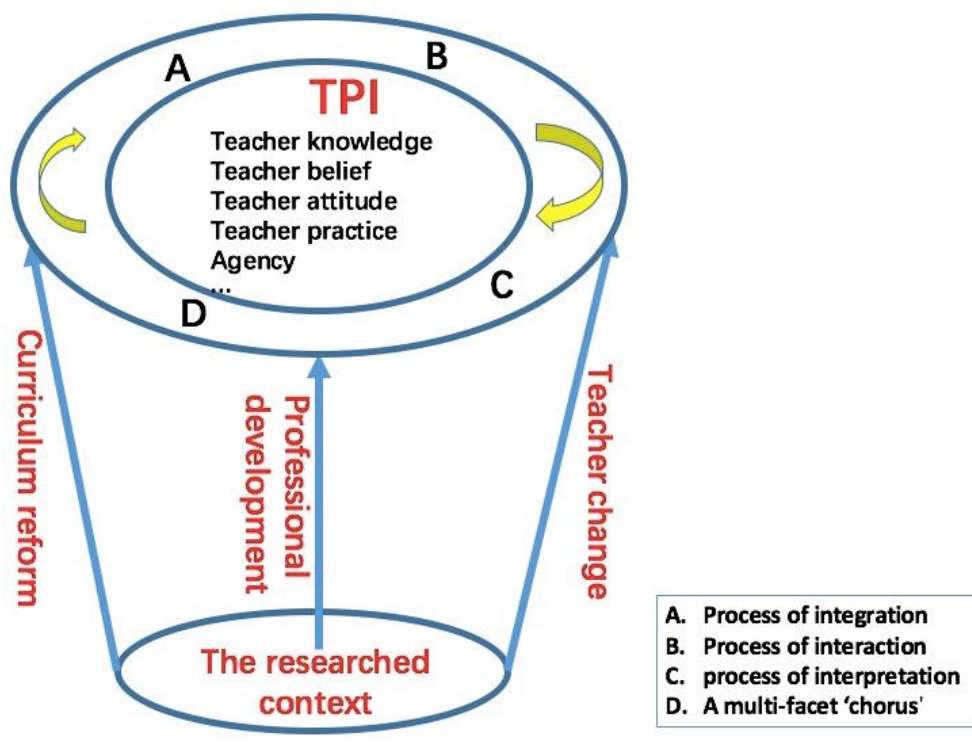
Figure 2.3 A framework for identifying TPI of the researched context

Accordingly, TPI is characterized as an ongoing process of integration, an ever-changing process of interaction, an evolving process of interpretation, and a multifaceted 'chorus' consisting of various sub-identities. Some key components of TPI were explored as well, including teacher knowledge, teacher belief, teacher attitude, teacher practice and agency.

Since the study aims to explore the impact of curriculum reform on TPI, much has been discussed about the nature, performativity and different implementation models of curriculum reform. Then studies concerning various educational systems were analyzed and compared, indicating some features of how TPI could change in the reform context.

Actually, the discursive construction of identity also suggested the interpretative paradigm and qualitative research (methodology), interviews (method) and thematic analysis (data analysis) as commensurate with this endeavor. The next chapter of methodology and methods will explain why case study is commensurate with the articulation of identity and how case study enables me to answer my research questions.

Chapter 3:

Methodology and methods

3.1 Overview

It is essential to choose a study design that can correspond with the research question and should match with the researcher's worldview, personality, and skills (Merriam and Tisdell, 2015). The methodology and methods to be adopted in this study are largely influenced by the research questions and the ontological and epistemological paradigm that I hold. The current research focuses on the teachers' professional identity (TPI) of a specific senior secondary school in China. The study explores two major research questions: what characterizes the TPIs in the researched school? and how and why did the TPIs evolve in the curriculum reform during the studied period? The major topics in this chapter include the design of the study, sample selection, and some ethical consideration. The underlying philosophy will be discussed as well, since methodology is closely related to the ontology and epistemology of a study.

Ontology refers to the enquiry into reality or what exists, while epistemology is about how we come to know reality in the form of knowledge (Cohen, Manion & Morrison, 2011). The perceptions of TPIs are given by the individual participants in the school, so the ontology of this study is that reality is created by individuals. From the epistemological paradigm, it is essential to discover the underlying meaning of TPIs. Briefly, the aim of this study is essentially exploratory and social

in orientation. Therefore, methodologically, a qualitative study is adopted to address the research questions. Particularly, as an in-depth study of a bounded system (i.e. the researched school) is done, case study is appropriate here.

3.2 Design of the study

3.2.1 The underlying philosophy and some defining characteristics

A qualitative design is most appropriate for this particular study mainly due to the underlying philosophy and some defining characteristics. The philosophical underpinnings of qualitative research are various. The underlying philosophy of this study is social constructionism, which indicates the significant role of human beings. It is 'through daily interactions between people', rather than having a separate existence, that versions of knowledge are built up (Burr,2015, p5). Meaning does not exist in its own right. Instead, people play the most important role as they interact and engage in interpretation, thus constructing meaning. Social constructivist usually indicates a focus on the individual and is concerned with how individuals construct and make sense of their world. Social constructivism is often grouped together with interpretivism, also known as interpretivist. Interpretivism involves researchers to interpret elements of the study, thus interpretivism integrates human interest into a study. Accordingly, interpretive researchers assume that access to reality (given or socially constructed) is only through social constructions. So the constructionist approaches are also sometimes referred to as indicating a focus on how the social world is interpreted by those involved in it.

In principle, there are as many realities as there are participants – as well as that of the researcher. In this sense, the task of the researcher is to understand the multiple social constructions of meaning and knowledge. Research methods, such as interviews or observation, are often used, which can allow researchers to acquire multiple perspectives. The research participants are viewed as helping to construct the 'reality' with the researchers. Values of the researcher and others are assumed to exist and subjectivity is an integral part of the research. The central aim or purpose of research is understanding. The phenomena of interest tend to be fluid social constructions, rather than firm facts (Robson, 2011). This study features a social construction in the way that it is identified, perceived and evoked by relationships and situations. The context in which they occur needs to be taken into accounts as well. Otherwise, that will make them difficult to understand or interpret.

Methodology is concerned with thinking about method and the way in which research is done. It is not only about the nature of knowledge (epistemology), of reality (ontology) and of human nature. Yet the researcher's position on these issues inevitably shapes the research that you will do and the way you go about it. Therefore, it seems helpful to think of methodology as encompassing all these different dimensions (Pryor, 2010). Briefly speaking, the underpinning philosophy of the methodology includes aspects like ontology, epistemology, and paradigms. Also, the sets of issues are separate but also paired. It is difficult to speak of

epistemology without invoking ontology. For instance, stating an epistemological position can help discover knowledge of the world that can be reliably substantiated or disproved. That requires particular ontological premises. In this case, there is an objective reality separate from the knower.

Specifically, the focus of the current study is the participant teachers' understanding of TPI as well as its change during curriculum reform. The participants' perceptions as well as the relevant reasons are created by individuals in the research, thus showing the interpretative paradigm. Interpretivist represents one of the two traditional world views. From the interpretive paradigm, the ontology shows that reality is socially constructed or created by individuals in groups, which means realities are multiple and mind-dependent. When it comes to epistemology, we can understand reality by learning people's viewpoints, so the nature of knowledge is obtained by discovering the underlying meaning of events and activities. For studies of viewpoints, a typical question is 'Why do you think in this way?' That's why the methodology adopted are usually qualitative, and flexible designs are often used. Usually, small numbers of participants are involved, but rich descriptions can be achieved. Interviews and observation can be seen as the common methods to generate data in the research of this kind.

As for data collection and analysis, two major steps are adopted to explore the change of TPI in curriculum reform: questionnaires and interviews. The data mainly

consist of the transcripts of interviews and answers from the questionnaires, along with some documents that are relevant to this study. The adoption of questionnaires was mainly to gain a comprehensive understanding of the TPI in the researched school. Also, the questions prepared the participants for the topics covered in the interview. The interview data further explored the research questions and provided a deeper insight into the topic concerning TPI. As the major method, individual semi-structured interviews were conducted to explore the eight participants' inner world. The teachers' views were specified through a narrative approach. Lastly, the data obtained from various sources were compared and used to increase the trustworthiness with the method of triangulation. Specifically, data obtained from interviews could be compared to those from questionnaires and documents, hoping to confirm the emerging findings obtained in the interviews. In this way, data obtained from the semi-structured interviews were used as the primary data source. The rationale is that interviews tend to elicit participants' personal accounts of their experiences and how they understand these experiences from a personal angle (Hollway and Jefferson, 2000), so they can well serve the purposes of the current types of study (Xu, 2013). To be specific, the main purpose of this study is to trace the participants' perception of TPI and the role of curriculum reform that played in the shaping of their TPI.

Finally, considering research questions within methodology is also important in considering what might constitute good questions. Bryman (2004) suggested that

good research questions should be clear, researchable, linked and neither too broad nor too narrow. They should be connected with the established theory and show potential for new knowledge. The research questions influence the selection of a qualitative approach (Robson, 2011). The current research is predominantly qualitative, so the relevant research methods are adopted accordingly.

In brief, the focus in this qualitative study is on meaning and understanding. Also the researcher will be the primary instrument of data collection and analysis. On a whole, the research is inductive. Therefore, a qualitative design is most suitable for this particular study and case study is the most appropriate type.

3.2.2 Definition of case study

Case study is defined by Robson (2002, p.178) as 'a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context, using multiple sources of evidence'. The definition about case study has been echoed by many other researchers. Some emphasizes its strengths, saying that the case study approach can help seek to understand a larger phenomenon through intensive examination of one specific instance (Rossman & Rallis, 2003). 'Concrete and complex illustrations' can be made by exploring several individuals (Wolcott, 1994, p.364). Thick descriptions can be made of the individual cases (Geertz, 1973).

Many researchers agree that the case study approach is the combination of various methods, to obtain a comprehensive understanding and deal with various variables within the research. Also, cross-case analysis is preferred, aiming to get a comparative or horizontal perception of the research.

3.2.3 The rationale of adopting case study approach

Case study is used currently due to its suitability to carry out an in-depth study in the bounded system, i.e., in a particular Senior Secondary School in China. Though adopting case study is popular in social science, popularity is not the major reason for the choice of this approach in the current study. The major advantages of case study include its potential for capturing the participants' viewpoints, giving a vivid and full description of what happened, and being well suited to attaining an understanding of the complex process of shaping and transforming TPIs during curriculum innovation.

Clearly, the case study strategy can be a good choice. The research focuses on a contemporary phenomenon, the formation or development of TPI. The research is studied in its real context, the current school curriculum reform. Also, multiple sources of evidence are important, mainly due to the complexity of the research topic concerning identity. Thick description of individuals can help answer the research questions, such as trying to identify some general trends and patterns of TPI. Besides, there are various variables within the research, among which teachers'

professional identities, curriculum reform and teacher change are the most prominent ones.

When it comes to the case study strategy, the school as a whole is considered as the unit of analysis. The school is a typical urban government-funded school. In order to gain an in-depth understanding of its TPI, eight teachers in this school are deliberately invited to participate in this study. They differ in aspects such as genders, subjects, and teaching experience. Some features of their TPIs as well as the deciding factors are to be found. Reasons for their changing TPIs, especially those related to curriculum reform will be detected as well.

As for the specific procedures, questionnaires were used to form a general picture of the TPI in the researched school and, more importantly, enabled the participants to prepare for the interviews. Key factors concerning teachers' professional identities were included in questionnaires. Teachers' self-construction and their beliefs were also the foci of the questionnaires. The questionnaires were largely based on influential studies, but they have also been adapted to the specific context of the research.

The study specified the teachers' views through a narrative approach. Relevant information was collected by interviewing teachers. Also, participant teachers were asked to discuss about their TPIs as well as the relevant change over time, mainly

by answering questions in the semi-structured interviews. The open-ended interviews were conducted with the teachers, and document collection was performed to gather information on TPI. The transcripts of the interviews were analysed using thematic coding to uncover the themes related to the teacher's professional identity, especially those concerning the participants' responses when they are faced with the curriculum reform.

In short, this study attempts to obtain an in-depth investigation into the complexity of the teachers' professional identity formation (Bell, 1999). The following part provides more details of the participants, methods of data collection and analysis, including some ethical considerations.

3.3 Sample selection

As case study was adopted in the current study, two levels of purposeful sampling ought to be considered. Firstly, the criteria for selecting the case should be established. Besides, it had to be decided how the sample of people or participants were selected within the case.

3.3.1 Case selection

To select cases for in-depth case study analysis, it is not viable to use random sampling as an approach. Typically, purposive modes of sampling are needed. A typology of case-selection types was outlined by Koivu and Hinze (2017):

characteristics of the case, relationship between a small number of other cases, etc. Multiple subtypes are embedded within the above four types.

As for this study, the case could be selected based on its inherent characteristics. The whole school is chosen as the case, largely because it exhibited some important features and potential to conduct the research. The school is in an affluent residential area of a medium-size, coastal city. Its location and position in the educational system provided some good conditions for further study. For instance, it implemented what was required in the national and provincial curriculum reform policies, so it could be comparatively easy to reflect the impact of curriculum reform on the TPIs. Anyway, the site was selected partly due to its easy accessibility. As has been explored in the previous section, the researched school has been experiencing the curriculum reform and studying its teachers is likely to provide some implication for its policy making. With the interest in the research topic, belief in my experience and professionalism and familiarity with me, permission was obtained from the school before my access to its teachers and the setting itself. Authorization was given before my data collection began.

3.3.2 Participants

As for selecting the participants, some key standards were employed, which was inspired by Yin (2015). To choose those who are representative or typical can help discover the truth of the whole school. The participants' being revelatory can help

find those that may not have been previously investigated. Accordingly, I chose

participants by considering the factors such as the teacher's gender, subject that

he/she teaches, and teaching experience. The case study was conducted on eight

teachers in the researched school. The participant teachers were selected on the

basis of the representativeness in relation to the research questions: (1) seven of

them were experienced teachers, with more than three years' teaching experience;

(2) they were teachers with relatively homogeneous current teaching situations

(For example, they were all teaching the secondary school students who were

mostly aged from 17 to 19).

Specifically, the subjects are roughly divided into two major groups: those who

teach core subjects (i.e. Chinese, mathematics, English) and elective subjects (i.e.

physics, chemistry, biology, politics, history, geography). This kind of division of

courses is closely related to the number of the students who take these courses

and the positions when it comes to China's national college exam or *Gaokao*. All

the students have to take the three core subjects throughout their three-year

senior secondary education. However, students stop studying an electric subject

after they pass 'The Academic Test for the Ordinary High School Students' (*pugao*

xuekao, 普高学考), which students tend to sit in during the first two academic years.

For a specific student, he/she only selects three out of the seven elective subjects

to study throughout the three years. As for *Gaokao*, students have to sit in the

tests of all the three core subjects and the three elective subjects. As for the

elective courses, the balance between the subjects of science and those of art was also taken into consideration. Besides, to specify 'teaching experience' or the years that they have taught in senior secondary education, teachers can be grouped into three categories: 'early-career teachers' (i.e. those who have been teachers for no more than 2 years), 'established teachers' (i.e. those who have been teachers for 5 to 10 years), and 'experienced teachers' (i.e. those who have been teachers for more than 10 years). Another way is dividing teachers into two major categories: 'novice teachers' are those with little or no mastery experience and they tend to be student teachers or teachers who have less than 2 years of teaching experience (Gatbonton, 2008); 'experienced teachers' are those who have approximately 5 years or more of classroom experience. Additionally, as the year 2002 saw significant changes in China's national curriculum reform, it is necessary to include enough informants who had started their teaching career before 2002. The major reason is to increase the possibility to obtain abundant data concerning the focus of this study, i.e., the TPI during the curriculum reform.

With these factors mentioned above and the willingness to be interviewed, eight participants were chosen in the current research. The teachers were referred to by code: LT1, ST1, LT2, ST2, ST3, SST1, SST2, and ST4. Their background information can be seen in the table below and then a brief description will be given about each of them (see Table 1).

Code of Teachers	Gender	Subject area	Teaching experience	Remarks
LT1	Male	Languages	17 years	Subject panel
ST1	Female	STEM	15 years	Former tutor
LT2	Female	Languages	19 years	Tutor
ST2	Male	STEM	22 years	Administrator
ST3	Female	STEM	17 years	Subject panel
SST1	Male	Social Sciences	8 years	Tutor
SST2	Female	Social Sciences	15 years	Former tutor
ST4	Male	STEM	2 years	

Table 1: a brief description of the participants

LT1: a male experienced teacher who taught languages. The subject that he taught is a core subject which has existed longer than many other subjects. This participant was included to examine how teachers of this seemingly 'solid' subject have been influenced by curriculum reform. The selected individual teacher was the group leader of the subject, i.e. the subject panel. He provided rich data that was relevant to curriculum reform. For example, the school once required all the group leaders to design the school-based curriculum of their own subjects by taking into consideration many factors such as characteristics of the subject, the subject teachers, students, the school culture.

ST1: a female experienced teacher of STEM. The subject that she taught remained at the core of the school curriculum and most students in the researched site attached great importance to it. This subject also brought in a test that all the students have to sit in the *Gaokao*, a standard Chinese college entrance examination. Also, it was widely considered to play a key role in showing a student's quality of intelligence. The participant had the experience of being a tutor for several years. She won awards in some important competitions which showed the teacher's excellence in the subject.

LT2: a female experienced teacher who teaches languages. This subject was also a core subject which has constantly experienced changes, including those in important exams like *Gaokao*. Besides, the participant was not only a subject teacher, but also a tutor of 40 students. Tutoring needed to be given enough attention, and the latest reform has brought in some relevant new policies in this aspect.

ST2: a male experienced teacher of STEM. He has the longest working years among all the participants. Also, he worked as an administrator for more than 10 years and his administrative work was closely related to curriculum reform and professionalism of teachers. The subject that he taught was considered as a 'typical' subject for the students of science. Students' good academic performance in this subject was taken as a sign of clever minds. Anyway, this subject has seen many

changes since the introduction of some new policies into the *Gaokao*, which is inseparable from the curriculum reform.

ST3: a female experienced teacher who teaches STEM. She worked in a group of seven teachers, who have been very active in the school curriculum reform. On many occasions, when new reform policies were introduced, they tended to be the first groups of teachers to learn about them and start to incorporate them into their teaching. Also, they have won many awards concerning curriculum reforms. Their enthusiasm and achievements were well found. Actually, three teachers in this group were principal or vice-principals during the research period, and they led the curriculum reforms across the whole school. Teachers of this group shared teaching materials and cooperated with each other in many situations, including curriculum designs, so this participant was able to reflect some common features of TPI in this specific subject.

SST1: a male established teacher of social science. He was the only established teacher in this study and also the only participant who has a master's degree. However, his major in the university was not related to education or teaching, thus making him show great difference in some aspects from all the other participants. He was also a tutor during the research period.

SST2: a female experienced teacher of social science. The subject that she taught was a science subject in university and most teachers of this subject had been science students in secondary school. However, this subject was classified as a social science subject in senior high school. The participant used to be an excellent tutor, thus having rich experience in this aspect.

ST4: a male early-career teacher who has taught science for about 2 years. The subject that he taught was a new subject introduced in the national entrance exam. Teachers of this subject were given many new responsibilities because the researched school was promoting 'Informationization of education', which is required by the government and needed by modern society. This subject has been faced with many dramatic changes and unexpected challenges due to the latest curriculum reform. The novice teacher's professional identity was, to a large extent, influenced by his being in the early stage of teaching life.

3.4 Data collection

Briefly speaking, the study was carried out in two major phases. In Phase One, all the eight participants were required to complete questionnaires, which laid a good foundation for the following procedures of the research, since a general idea of the TPIs in the researched site could be formed. Also, some implication was found to help with the interviews in Phase Two. In the second phase of the case study research, individual participants were interviewed respectively.

The participants are my colleagues, which inevitably had an impact on the study due to the familiarity between us. It should be assured that the participants' influence on my evaluation of their performance should be reduced as much as possible, so a democratic and open culture of dialogue was developed early in the course. Their consent was formally sought by asking them to sign a form of informed consent, following obtaining the agreement of the School of Education as well as the target research site. Details of the adopted methods are discussed as follows.

3.4.1 Questionnaires

Questionnaires were adopted at the early stage of the current research. Questionnaires can be designed to explore how the teachers perceive their professional identity before and during the reform (Beijaard et al., 2000). In the questionnaires, respondents expressed to what extent the items were applicable to them. Teachers answered how they agreed with the items on a four-point scale. An overall picture of most teachers' professional identities was explored here. Also, it indicated what differences exist among individual teachers. In addition, the following steps of the research could be inspired by some findings produced during this stage.

All of the eight participants' questionnaire responses were received. The responses were first analyzed respectively, attempting to find some implications for answering the research questions and following interviews. Then data of the eight responses were compared and analyzed, forming some major characteristics of the TPI in the researched school. When designing questionnaires, I focused on three categories of data: the basic information, teachers' professional identity, and the influence of curriculum reform on TPI (see Appendix 1). To be specific, the basic information section attempted to find the participant teachers' personal information including gender, experience of teaching, subject(s) taught and position. This group of answers can help form the basic information of a participant teacher. In the following part, some statements and open questions are focused on TPI, mainly based on theoretical ideas discussed in the previous literature review section, especially some components of TPI. Responses obtained in this part can well indicate the participants' perception of their own TPI. Finally, the influence of curriculum reform on TPI was explored by referring to teachers' understanding of reform itself, and their change in the reform context. This part focused on how the participants' TPI evolved in curriculum reform and how they integrated reform into their beliefs and practice. Also, some reasons could be discovered for the participants' change both in their perception and teaching practice.

Finally, some divergent findings in the responses of questionnaires (See Appendix 1) could provide new insights into the follow-up interviews. For instance, it was

interesting to find that two participants answered Item 6 (Besides being a subject teacher, what other responsibilities do you have?) with D (Other responsibilities), mentioning other tasks like 'being a sub-group leader' and 'providing technological support for the school' respectively. Inspired by this, richer data could be collected in the next stage of the research. Specifically, being a sub-group leader was further explored in the interviews. The young participant's feelings of being 'nobody' could be explained as the emotions that were caused by doing many technological tasks 'irrelevant' to his perception of being a teacher.

3.4.2 Documents

Documents provide a rich repertoire of evidence which contributes to the research findings directly and also substantiates the data from direct observation and interviews (Bell, 1999; Patton, 2002). Documents can include public records (e.g. governmental documents, syllabuses, textbooks) and private documents (e.g. school records, personal memoires, teaching logs) (Cohen, Manion and Morrison, 2011). In this study, both records were used as my research documents and they acted as supplementary materials to provide background and relevant information.

I had collected some government documents about curriculum reform policies in order to know about some essential requirements and guidance for the teaching and teachers. Some data have been used in the previous chapter of introduction to the current research context at the large scale, such as the historical background

of the Chinese teachers' TPI. In other chapters, data from the curriculum reform policies were frequently used and compared with the analysis of the participant teacher's perceptions and practice of TPI

Also, I had obtained some school documents from three major sources: the school's official websites, the head of the school's Personnel Department, and the head of the school's Teaching Affairs Office. Documents such as 'The Brief Introduction to the School' and the yearly 'Working Plan of the School' provided background information of the researched school, some regulations and practices of the school. Documents like 'The School Calendar' and the working plans and the yearly summary reports of the Teaching Affairs Office could inform me of some activities (i.e. having demo classes, selecting excellent teachers, competing in competitions) and events of the whole school and a specific group of teachers, which also helped to have a better understanding of the school context as well as the teachers' professional lives.

Other private documents could help with the methodological aspects. For instance, when selecting participants, I found documents about the school teachers' records of formal schooling were quite useful. Also, information about when these teachers started working in the school could help to discover the staff's teaching experience, a significant factor for locating a suitable participant in the current research. How this category of data was used could be seen in a typical example – the choice of

a social science teacher, who was the only male established teacher in this subject area and the only participant who had a master's degree.

3.4.3 Interviews

As a typical sociocultural research method, interviews can provide in-depth data about individual teachers (Lasky, 2005). Interviews are useful in examining people's perceptions, emotions and the context surrounding one's life. In this study, interviews were used as the main tool to explore the shifts in the participants' professional identities. The basic interview framework will be Kelchtermans (1993) conceptualization, which can help form a comprehensive picture of different dimensions of teacher identity, such as self-image, self-esteem, job motivation, task perception and future perspective. Besides, other factors which are significant to professional identity construction will be included, such as teachers' background and career biography (Beijaard et al., 2004; Flores and Day, 2006) and emotional aspects (Zembylas, 2003). The rationale for including the above content is that they can reflect the participants' TPIs (e.g. the components including teacher belief, teacher attitude, teacher practice) and how and why their TPIs were reshaped in the reform context. The relevant theories and concepts have been detailed in the previous literature review section.

Semi-structured interviews were employed to collect information about TPI formation and transformation. The rational for using semi-structure interview is to

guide the interview, to avoid missing important questions, and to get the data the researcher need. The relevant interview protocol was provided in the appendix (See Appendix 2), in which some key questions were included.

As the questionnaires provided abundant data and also laid a good foundation for the follow-up interviews, no significant changes have been made since the phase of interviews started. Anyway, the first two interviews can be seen as 'pilot' interviews as well, as one big change was made: ask the participant to state the most impressive curriculum reform from their perspective. The major reason is that this question can help detect the most influential educational reform in the researched context, and develop the following questions concerning reform in a more natural way. Besides, in order to make sure that the interviews are comprehensive and in-depth, some of them were held for two or three times, which also helped to avoid the exhaustion of the interviewees and myself.

The interview methods consist of the following several stages. At first, an invitation was distributed to the target teachers to get their agreement. Then semi-structured interviews were conducted over several months. The interview location was suggested by each participant, mainly to allow the participants to become more candid in their responses, something which gave the data more depth. Each interview lasted around one hour. All the interviews were recorded using an App in my mobile phone and then transcribed after the interview session (Lasky, 2005).

The voices of 8 teachers were heard through individual semi-structured interviews. An interview guide was used to conduct semi-structured interviews inviting the participants to talk about their (a) general perceptions of the teacher's professional identity; (b) the impacts of curriculum reform on their TPIs. Topics include the reason of choosing the teaching career, interaction with the students, personality features, teaching career development, teaching behaviour, evaluation behaviour, and collaboration with other people. The major interview questions (see Appendix 2) were designed with some specific purposes. The questions concerning the participants' reasons for becoming teachers could help provide some basic ideas about their understanding of this profession. The questions about teachers' major roles and responsibilities were adopted to reflect these participants' perception of being teachers. The participants' beliefs about good teachers and SRTs could show the characteristics of the ideal teachers in their view. The rest key questions focused on how curriculum reform has an influence on the TPIs in the researched school. That is to say, the participants' change of TPIs can be detected by exploring their perceptions of teachers' new roles or responsibilities required by the new curriculum reform. Their own attitudes towards these changes can help discover some reasons why TPI evolved amid curriculum reform while others do not. Asking the participants to predict the future of reform is in essence to detect the influence of reform on the researched school as well as its teachers. If the participants hold the belief that curriculum reform will continue, it indicates that the reform does

play a role in their professional life. If a participant teacher can provide some insights into how to implement the reform, he or she must take the reform seriously and put many efforts. Based on the teachers' responses, further questions were asked as well. The participants' perceptions and experiences of being teachers were gradually revealed during the process. Interview data were transcribed and analyzed.

Analysis of the interview transcriptions adhere to the four stages that are described by Marshall and Rossman (1995), which include organizing the data, generating categories and themes, testing any emergent hypothesis, and searching for possible alternative explanation. The analysis aims to identify central themes in the data by searching for recurrent ideas and emotions to allow the researcher to code, reduce, and connect different categories into central themes. The coding process was guided by the principles of comparative analysis (Strauss and Corbin, 1998), which involves the comparison of coded elements in terms of emergent categories. Lastly, the data comprising the entire data set were compared, leading to the identification of some types of teachers in the context of the reform.

3.5 Data analysis

The data mainly consist of the transcripts of interviews and answers from the questionnaires, along with some documents that are relevant to this study. The analysis began simultaneously with data collection and some basic analysis was

done in the process of collecting data, hoping to make the follow-up data collection and analysis 'parsimonious and illuminating' (Merriam and Tisdell, 2015, p.197) and make some necessary adjustment accordingly. For instance, after collecting some questionnaire data and analyzing them, some questions were found to be too general or seemed ambiguous to the participants. Accordingly, I made some change to make them more relevant to the study, sound more rigorous to the participants, and bring more clarity to the next data collection activities. In particular, the key questions of the semi-structured interviews were revised for several times.

As for the specific data analysis of questionnaires, documents and interviews, all started from the research questions. Template approaches were adopted by starting the analysis with some pre-determined codes: reasons for becoming a teacher, perceptions about being a teacher, and perceptions of being a good teacher and a Special Rank teacher. This can help answer the first research question concerning the characteristics of TPIs in the researched school. The second major research question on how and why the TPIs evolved in the curriculum was answered on the basis of the data analysis of the impact of curriculum reform on the participant teachers' perception and practice. These initial codes served as a template for data analysis. In turn, relevant phrases, sentences or whole paragraphs were gathered under each code heading, forming major categories of TPI. In particular, when analyzing the interview data, I adopted an open and

inductive approach. Some new themes did emerge, and they were identified and categorized into the major categories which had formed previously.

Individual profiles were drawn up for each of the eight participant teachers. To build up a profile, the answer sheet of a questionnaire, the records and transcripts as well as a general analysis of each interview were kept in each file in chronological order. They were conducted first by noting each topic discussed and a summary of key points. For really interesting answers that could be used as a quotation in my thesis, they were transcribed word for word.

All the data were kept firstly in Chinese. The summaries and those who need to be highlighted were translated into English, but all analysis of the data was based on the original Chinese transcript in order to avoid the transformation of meanings expressed in the original transcripts through translation from Chinese to English. As a system has not been found to check the accuracy of my translations, I have tried to translate the analysis orally and read them to the participant respectively. If there was some misunderstanding, correction has been made in this process as well. This process could not be deleted, as it attempted to guarantee the accuracy of the data analysis.

3.5.1 Thematic Analysis (TA)

The approach of TA (Braun and Clarke, 2006) is not simply used to summarize the data content. More importantly, this method is used to identify, analyze, and interpret key features of data, which is guided by the research question.

From qualitative data, codes and themes can be generated from accessible and systematic procedures of TA. Codes are the smallest units of analysis and also 'the building blocks for themes, (larger) patterns of meaning, underpinned by a shared core idea'. Themes provide a framework for organizing and reporting the researcher's analytic observations.

The major reason for the usefulness of TA is its flexibility. It is not simply theoretical flexibility, but flexibility in terms of research question, sample size and constitution, data collection method, and approaches to meaning generation. TA can be used to identify patterns within and across data in relation to participants' lived experience, views and perspectives, and behavior and practices. 'Experiential' research seeks to understand what the participants think, feel and do.

TA has many other advantages when it comes to data analysis. It can be applied across a range of theoretical frameworks and indeed research paradigms. Also, TA can produce high-quality analysis, and has in-built quality procedure. Furthermore, TA can be used in various data-sets, such as case study research, large interview studies (Clarke and Braun, 2017).

3.5.2 The procedures and an example

I adopted the qualitative analysis strategy which was proposed by Miles and Huberman (1994). Three rounds of data analysis were carried out. In the first round, all data were carefully read and reread, and a *code* was entered when a piece of data illustrated, showed, or implied a unit of meaning related to the participants' professional identities or possible explanations of the change of such identities. At this stage of data analysis, a meaningful unit was identified as a code so long as it emerged from any of the data sources, i.e., some codes just emerged from a single data source.

In the second round, existing codes were more rigorously studied. Relationships between codes were analyzed through repeated comparisons based on which tentative categorization was made of these codes (Strauss and Corbin, 1998). For example, two of the tentative categories and subcategories are external factors and internal factors. External factors, such as institutional and social factors, contribute to the transformation of identities. Internal factors mainly refer to personal experience, educational background, etc. Finally, the third round of data analysis led to the reorganization of the tentative categorization by which the final conceptual framework could be constructed.

To illustrate the process as well as the results of the thematic data analysis, a typical example is provided in the Appendices (see Appendix 4). With the approach of TA, the data content of the example was summarized: ST3 explained the changes she made in her teaching practice since the introduction of curriculum reforms. More importantly, some key features of data could be identified, analyzed, and interpreted. Codes like 'Gaokao', 'demo classes', 'textbook' emerged at first. Then through repeated comparisons, relationships between codes were analyzed. For instance, it could be detected that values and beliefs required by curriculum reform policies was just 'partly' instead of completely implemented in the teaching practice. Finally, in the third round of data analysis, the reorganization of the tentative categorization was realized and contributed to the construction of the final conceptual framework. The example ended with the explanation why 'Gaokao' was used as a code, while 'demo classes' was not a code, but just integrated with codes like 'professionalism'.

3.5.3 Trustworthiness

Inspired by Merriam & Tisdell (2015), the criteria and terminology for discussion and assessing rigor in qualitative research are in flux, so trustworthiness were discussed in interpretive validity and reliability. Actually, validity and reliability are essential and approachable despite the type of research. Merriam and Tisdell (2015) pointed out three factors relevant to validity and reliability of a study: the

conceptualization, the way in which the data are collected, analyzed, and interpreted, and the way in which the findings are presented.

Strategies were adopted to increase the trustworthiness of qualitative research. Triangulation played a significant role. According to this strategy, multiple sources of data or data collection methods were used. Data obtained from interviews were used and compared to those from questionnaires, hoping to confirm the emerging findings. Another strategy relevant to the current study was 'member check', which means taking tentative interpretations or findings back to the participants from whom they were derived and asking if they were plausible. The strategy of providing rich and thick description can help contextualize the study. It became evident that the situations could match the research context and accordingly, the major findings could be transferred.

In brief, producing valid and reliable knowledge in an ethical manner is what all research needs to achieve. Being able to trust research results is particularly significant to professionals in applied fields because practitioners intervene in people's lives. Whether in qualitative research or quantitative research, trustworthiness has to be taken into consideration.

3.6 Ethical issues

Adequate attention needed to be given to ethical issues such as protecting the interests of the participants, ensuring that participation is voluntary and based on informed consent, avoiding deception and operating with scientific integrity, and complying with the laws of the land (Denscombe, 2014; Brooks, Riele and Maguire, 2014). The rationale is that it is essential to be concerned about the relationship with those who participate in the study, and the quality of the research produced. Since this study involves human participant, issues were addressed to ensure that participants should not be hurt by, for example, making them anonymous. Students were excluded in the research. By reading the University of Nottingham Code of Research Conduct and Research Ethics, more details concerning ethical issues were learned. Before conducting the research, the ethical approval letter (see Appendix 3) was obtained from the university. Some potential ethical issues of the current study will be discussed as follows.

3.6.1 Privacy and confidentiality

Privacy is of great importance in social research. It was crucial to guarantee the participants' anonymity. To respect and protect the participant teachers' privacy, I use pseudonyms for all the teachers and other relevant persons as well as the names of schools. Also, I limited my data collection to what is essential to the research topic, trying to avoid involving participants' secrets. I transcribed the interviews and kept them only to myself. The documents about the school was also kept privately, since they included the school's name and many teachers' names.

Confidentiality requires the researcher to promise how the data will be used and who will have access to it. Inspired by Xu (2013), some major rights include: they can decide not to continue participating in the study at any time; their data will be strictly kept confidential; they have the right to know how their data will be reported prior to publication and refuse the use of the data when they are consulted. In the current study, I tried to fully explain my research intentions to all the eight teachers and acquire their ethical approval by signing a written consent each, which clarifies their rights as participants.

In practice, the informed consent was obtained from my university as well as the sample school. Also, permission was sought from participants such as my colleague teachers. The consent forms were designed to ensure that no pressure was applied to the participant teachers, who were informed that they had the freedom to decline involvement in the study. Furthermore, the general aims, the procedures, the benefits and potential harm of the study were told to the teachers, thus conforming to ethical guidelines. The researched school as well as its principal and teachers were informed with proper respect about the nature and consequences of this study. A written consent was necessary to clarify many aspects of the research, such as the purpose, procedures, possible effects, the use of the research, etc. When the research was completed, participants were told about the outcome of the research, how it would be used and to whom it would be spread.

When ethical problems did emerge, solutions were adopted to handle them. Voluntary participation or withdrawal from the research was promised without penalty. That created a sense of safety for the participants as well. For example, required by one participant, part of her data has been deleted because she felt afraid that part of remarks could reveal her name. Without hesitation, the data were deleted since the privacy and confidentiality of the participant had to be guaranteed. Another example is that one participant forgot to hide the name of a school in his discussion and he did not realize that. I pointed it out the 'mistake' in the interview and promised him that the record would be kept only to myself. When making data analysis, I tried to avoid using the data relevant to the school or deleted the school name when it was necessary to use the data.

3.6.2 My role and impact

Another prominent ethical issue is related to the position or role of the researcher. The individual researcher's own values and ethics tend to decide the actual ethical practice. The situational and relational nature of ethical dilemmas depends on the investigator's own sensitivity and values (Merriam and Tisdell, 2015). Due to this importance, the definition of 'a relational ethics' is suggested by Tracy (2013): 'being aware of one's own role and impact on relationships and treating participants as whole people rather than as just subjects from which to wrench a good story' (p.245).

In this real-world work-based research, I held both an ongoing organizational functional role and the research role. As an insider in this study, I know how important and interesting the topic of the current study is, and I can develop an in-depth understanding of the researched context. To be ethical and responsible, I attached great importance to the three core elements of insider inquiry: managing the tensions between closeness and distance (preunderstanding), organizational and researcher roles (role duality) and managing organizational politics (Holian and Coghlan, 2013). As I engaged in research involving colleagues, ethics and practices increased the complexity and duality of my role. The rationale is that insider research often seeks to understand or resolve practical issues in an organizational context. The use of interactive processes can cause difficulty in management or making detailed plans in advance (Holian and Coghlan, 2013).

I strived to avoid the influence of power and lessen my own subjectivity that might be brought into research. The power relationships were given extra attention, trying to maintain vigilance about how the participants' behaviors and reactions could be influenced by the possibility of seeing me as 'powerful' (Matthews, 2010, p.76). I provided a plain language statement inviting voluntary participants and promised that they could withdraw the data at any time. Efforts were made to take the potential impact on the participants into consideration and obtain formal approval prior to conducting the research. Participants were given adequate time

and freedom to consider ethical issues including the potential benefit or harm, such as possible impacts on working relationships and on their future career. Besides, data were collected individually, with the time and place of conducting interviews decided by the participants, hoping to create a relaxing and friendly atmosphere. Through notions of reflexivity, some typical reflexive questions were explored, such as 'what is my power relationship with the people I am researching?' Ethical implications were given much emphasis in my choice of research questions, focus and approaches, making the participants realize that the project was actually part of their normal work. When doing data analysis and writing up the findings, reflection was often made about what could be included, excluded, deleted or emphasized. The outcomes for the participants as well as the researched site was taken into consideration.

3.7 Summary of chapter

In conclusion, the qualitative design is the most appropriate for the current study since an in-depth understanding is to be explored about the characteristics of the teachers' professional identities as well as the reason for TPIS' change during curriculum reform. The case study can best answer the research questions since the research is done in a single school, a bounded system and intensive data can be generated with this method by adopting semi-structured interviews or using documents.

However, one evident weakness of my methodology was its lack of what characterizes teachers' professional identities in China's senior secondary schools, since only one school was focused in this study. Another possible limitation can be caused by my role in the research. As an insider, it is inevitable to have some impact on several participants, so they might hide some facts or real feelings. Anyway, efforts have been made to handle these problems. As has been discussed previously, solutions included selecting research question and approach carefully, promising the participants to withdraw at any time, and obtaining the informed consent formally.

With what was clarified in this section concerning methods and methodology, data were collected and analyzed. Guided by the two major research questions, the following chapter 4 and 5 will focus on the major findings on the basis of the results of data collection and analysis.

Chapter 4:

Teachers' narrative of TPI

Data obtained from the questionnaires and interviews shared many similarities when it comes to teachers' professional identity. This chapter integrated these data of different origins and then compared them with the documentary data. Major findings were provided concerning the first research question: what characterizes the teachers' professional identity (TPI) in the researched school?

4.1 Reasons for becoming a teacher

This section clarifies and categorizes the themes concerning the participants' reasons for becoming a teacher. The questionnaire data, especially those obtained in the second part (See Appendix 1), showed that the subject that the participants studied and their former teachers played a significant role in their decision to become a teacher. The interview questions helped explore how the participants initially perceived what it meant to be a teacher before they took the profession. Besides, it can be seen how others or the whole society viewed this job. Some difficulties of being a teacher were also detected. Basic knowledge of the participants' TPI is likely to be obtained.

According to the participants' reasons for becoming a teacher, some basic ideas were detected about what being a teacher means. Also, the biggest influence(s) of

the participants' entering this profession of teachers could be found, thus accounting for how these factors influenced the formation of their professional identity. Diversity has been seen among the teachers in the researched school showed in their reasons for choosing the profession, but **five major factors** have been found as well. The analysis began with the first four parts, focusing on: the attraction of the subject itself that he/she teaches; the influence of former teacher(s) or family members; respect from society; and the teacher's personality (i.e. feeling happy to be with students or young people, being good at communicating with students, being good at learning, and other characteristics required as a teacher). The final part of this chapter lists other reasons like material causes and spiritual ones, along with an inspiring example.

4.1.1 The attraction of the subject itself that he/she teaches

The questionnaire data (See Appendix 1) showed that the eight participants all agreed that the subject they studied determined their decision to become a teacher, with six participants chose 'Agree' and 2 'Strongly agree' in Item 8.

When interviewed, almost all (7 out of 8) the interviewees showed great enthusiasm in the subject he/she teaches. For instance, LT1 emphasized his interest in the language itself and the subject he teaches. He explained, 'As for me, the dominant motivation for becoming a teacher is my profound interest in teaching the subject of language and in the language itself'. Also, some participants stated

that this interest dated back to their life in senior high school. For example, ST2 liked the subject of physics in his senior high school.

ST3 expressed that one major reason for her decision to be a teacher was that she had great interest in the subject of biology in senior high school. She also gave many details as follows:

(As a student,) My own score of biology was often very high. I felt that my way of thinking and interest in biology showed that I was a typical student of science. At that time, I found physics was less attractive for me. Besides, I thought that doing chemical experiments was dangerous. So, without hesitation, I chose to apply for the major of Teaching Biology in the university.

The word 'typical' is worth exploring here. In senior high school in China, students have to choose six compulsory courses including Chinese, mathematic and English. And the other three compulsory courses that students of science chose were physics, chemistry and biology. According to ST3, 'way of thinking' and 'interest' are two essential elements that contribute to the features of science students. Also, it can be inferred that the two elements are important for the teachers of science. In addition, having a sense of safety is likely to be another reason for her choice to be a biology teacher, which can be detected from the fact that she was afraid of the chemical experiments.

4.1.2 The influence of the former teacher(s) or family member(s)

According to the questionnaire data, in Item 13, most (6 out of 8) participants believed that their former teachers played a significant role in their professional life (See Appendix 1). Similarly, in the semi-structured interviews, six participants mentioned the specific person(s) who played a significant role in his/her decision to become a teacher. But it can be found that these influential persons affected the participants in various ways.

ST1 stated that her decision to be a teacher was largely due to the influence of her family. Her mother was a primary school teacher, who loved children and teaching very much.

ST2 stated that his decision was influenced by his former teacher and added, 'My choice was greatly influenced by my tutor in the senior high school. She believed that being a teacher was not bad, and it would be easy for me to find a job after graduation.' Similarly, her tutor's suggestion played a significant role in LT2's professional choice. She admitted, 'Frankly speaking, I did not think too much at that time (when choosing majors after finishing the *Gaokao*), just feeling what my tutor said was reasonable'.

SST2 said she was greatly inspired by her former teacher, 'He was a vice principal in my senior high school. And I was advised to become a teacher. It is worth

pointing out that the principal even promised me to work in my senior high school if I chose majors concerning education.'

ST3 said that her decision was influenced by the people around her, including her former teachers, friends and family members. She said, 'Most of them said being a teacher was a suitable job for me. Since childhood, I had often heard similar expressions like "You are suitable to be a teacher". So I believed that I would be a teacher in the future.'

The young ST4 stated that the most important reason for his decision to work as a teacher was the influence of two groups of people. He explained as follows.

The first group of supporters are my family. Specifically, my grandma is a teacher. Though my parents are not teachers, they really hope me to be a teacher and to inherit and carry forward the fine traditions of our family. And my grandma is very happy about it.

Besides, I was greatly influenced by my tutor in Senior High school. My tutor is a teacher of physics. I was among my teacher's first group of students when he just graduated from the university. The teacher was very passionate about this job and his teaching was perfect, so o I was deeply influenced by him and liked the subject he taught (i.e. physics) very much. However, due to various reasons, the tutor was 'replaced' by others, which made me very sad. At that point, I felt that a teacher could really influence his students greatly. And I was willing to be a person or teacher like him.

Evidently, the participants' choice of career is largely influenced by some specific people, such as their former teachers or parents, especially when their parents are teachers too. These people are described as 'significant people or early teacher role

models' (Knowles, 1992). Most participants mentioned that their family members, friends or other people around them said he/she was suitable to be a teacher. It demonstrates what Reynolds (1996) has found, 'the expectation of others, the surrounding culture, and what the person is allowed to do unavoidably affect a teacher's professional identity.'

4.1.3 Respect from society and students

The respect from society and the participants' students is another significant reason for becoming a teacher. LT1 stated that the whole society respected teachers and showed a positive attitude towards this profession. He stated, 'My friends and family members all think highly of this job. They believe that being a teacher is a decent job.'

ST2 felt that being a teacher is a 'noble' job. He further explained, 'The major responsibility for teachers is to educate a group of people, students. A strong sense of achievement can be felt, especially when teachers found they could help students to make progress or become successful in some aspect. Teachers felt they were educating the teenagers, who are the future of the country.' In other words, students' progress or growth in various ways can make teachers believe that their work is valuable for the whole society, which is also meaningful for the future.

4.1.4 The teacher's personality

As was told by his former teacher, ST2 was considered to be fit for being a teacher, mainly due to his personality. This reason for becoming a teacher was echoed by 5 other interviewees. The participants' description of teacher's personalities can be divided into some minor categories as follows.

Happy to be with students or young people

One important factor is that the participants like students. Specifically, LT1 believed that the job could help the teacher keep 'young' both mentally and spiritually, since he/she is always with the young students.

ST1 was happy with children, thinking that being a teacher could keep teachers themselves mentally and psychologically young. Being with students brought her a sense of achievement. For example, she could see the students' desire to learn, which could be read in their eye. This idea was shared by SST1, who said 'I once had the thought of being a teacher, as I like the feeling of standing on the stage and interacting with students, teaching or sharing what he has known with the students. He claims, 'It is happy for me to see their (the students') expressions on their faces.'

LT2 liked this job because it was happy and satisfactory for her to help students, especially when it comes to the development of her students' values and potentials.

I: After graduation and becoming a teacher, are you still satisfied with this job?

LT2： Yes, it remains interesting and satisfactory.

I: What makes this job interesting and satisfactory?

LT2: The students got help and made progress after we teachers teach them how to learn knowledge or get along well with others. These were the moments when I felt happiest and most satisfied. I felt good about students' growth in study and values.

Good at communicating with students

Another important reason for taking this job is that the teacher can express themselves very clearly, which is considered to be an advantage of being a teacher. ST3 stated that she liked the feeling of 'standing on the platform', teaching her students with a clear and loud voice.

Similarly, ST4 believed that he was good at or fond of teaching and communicating with students. He had the ability to communicate with others, so he felt the job was suitable for him.

Good at learning

Teachers themselves are interested in or good at learning, which can be reflected by the words like 'lifelong learning', 'inner peace', 'a quick learner', 'happy to share', etc. For instance, LT1 held that being a teacher pushed him to keep lifelong learning and make progress. Similarly, ST1 stated that teachers were likely to keep the lifelong learning because they needed to develop themselves along with their students.

When it comes to the personality, ST3 said that she owned a kind of inner peace, so it was suitable for her to keep learning and furthering her study. ST4 thought that becoming a teacher was also to realize his dream. Since his childhood, he liked the feeling and experience of teaching others. He considered himself as a quick learner and he felt very happy to share knowledge with others, thus hoping to make full use of his strength.

Other characteristics required as a teacher

According to the participants, some typical features of teacher's personality can be inferred in the story they shared. Actually, the words they emphasized or explained tend to further reflect their own understanding about how to be a teacher.

ST3 analyzed her own personality like this, 'I am considered to be a mild-tempered person. Also, I am easy-going and very kind to others, so these features make it suitable for me to become a teacher.' Though she agreed that the personality did play an important role in choosing a profession, LT2 mentioned a different kind of personality. She stated, 'I am serious and strict with myself. And this personality also pushes me to be very devoted to my teaching, which is among the necessary qualities for the teacher.'

The reasons provided by ST4 emphasizes the matching degree between his personality and the school context, 'I think that the school is a comparatively pure

place and is not like other places. As for me, I am the kind of person who is very direct, so I think the environment of the school is fit for me.'

Obviously, some characteristics can be found among these teachers in the senior high school: being kind, mild-tempered, easy-going, strict, devoted, pure, direct, etc.

4.1.5 Other reasons

Other reasons are related to something material, such as the working environment or salary. Also, spiritual elements, including great ideals and ambitions, could be found among participants.

Material causes

According to ST2 who has become a teacher for more than 20 years, his living conditions were not very good in my family when he was young, so entering the university was a good way for him to 'escape' from the countryside. Applying to be a teacher was one of the comparatively easy way to enter the university at that time.

As for SST1, the desire to become a teacher is not as strong as the other participants. When it comes to the reasons for becoming a teacher, he described as follows:

…But the major reason for my being a teacher is that the environment of the school is attractive. Also, I assumed that the potential salary and welfare of teachers would be good.

But actually, the salary is unexpectedly low. Besides, some challenges and difficulties are beyond my expectation. For instance, it is difficult to deal with tasks such as learning about the curriculum and its standard and helping students to prepare for the various tests. And it is twice difficult to finish them for a teacher who is not a graduate of the normal university.

SST1 is the first and the only one of the eight participants that considered the environment of a school as a deciding factor in his choice of career. This was echoed in the later dialogue between us:

I: Are you satisfied with your job now?
SST1: Yes. *(Without any hesitation)*
I: Where does this satisfaction come from?
SST1: (This satisfaction) largely results from the atmosphere in the school where I can get along well with his colleagues and students.

Also, SST1 emphasized that he was 'different' from other teachers by saying, 'I am different from other teachers. As I graduated as a MA, I chose to work in this school. After becoming a teacher here, I applied for the 'Teacher Qualification Certificate' (*jiaoshi zige zheng*,教师资格证) and then obtained it. But many others obtained that certificate first, mostly in the university, and then became a teacher.

It is common for most teachers to obtain the professional certificate first before they are employed by a school. Obtaining a certificate is a necessary prerequisite to become a teacher in senior high school in the researched context. It seems that SST1 is somewhat passive and not confident about being a teacher, since he

repeated that he is 'different'. And he chose this profession mainly because he got a MA and he happened to need a job then.

Spiritual causes

An inspiring example is concerning the youngest teacher. At the end of the interview, when asked what else they want to add, participants tended to mention the pressure that teachers face or the low salary they received. However, the young ST4 provides a new perspective:

I feel my career has just started. And this profession will be taken up for almost all my life. As for me, this profession is full of hope and potentials. So what I am doing now should not be considered as pure work or burden, but good opportunities where I can learn new knowledge and lessons. So I have found some **happiness** from the job and it is nice. For us young teachers, finding the happiness from the job is the most difficult thing. Unlike many experienced teachers, we young teachers choose the job not to get a stable job, a good salary, high social status, but to feel happy and willing to take the profession. Because it is very rare now for the young generation to worry about the living conditions, especially in the coastal area like Ningbo. We seldom worry about money.

So why do we choose to be a teacher? Firstly, you are those who feel satisfied with this kind of working atmosphere. Secondly, you have the ambition or ideals. You want to do something and realize your dreams in this field, which can even influence the next generations. Actually, this is the personal desire, which needs a high level of the teacher's understanding of his/her profession.

In this example, it can be detected that the young teacher experienced some difficulties and burdens in his profession. He was faced with some dilemmas. However, he claimed that he would not give up and decided to keep this job for almost all his life. Besides, his decision to become a teacher reflected the value of the young generation of teachers, since he considered that finding the job was the most difficult thing. Then he stated two major reasons for becoming a teacher: the working atmosphere and realizing the personal dream. Here a new tendency among many young teachers can be seen. They want to work for their personal dreams, which is not stated in such a direct way by the other participants.

Briefly speaking, the first series of interviews with the participants has explored the reasons why they chose teaching as a career. Besides, it has been detected how the society interprets the professional identity of teachers in the senior high school. Furthermore, some basic information of the participants has been discussed and detected. All worked together to pave the way for the following interview data analysis of TPI in the researched school.

4.2 The current teachers' professional identity

The major aim of the following data analysis is to answer the first research question concerning the participants' current perceptions of their professional identity. This section explores how these participants perceive themselves as teachers. The

questionnaire data provided implications in a comparatively general perspective.

In the interview, by discussing about their major responsibilities and major roles,

it is likely to detect some factors contributing to their perceptions of TPI.

4.2.1 Teachers' major responsibilities

As for the major jobs or responsibilities of a teacher in the senior high school, the

participants share many similarities though differences do exist. Briefly, the

participants' description can be summarized by quoting what ST2 said in an

interview. He worked as a teacher for the longest time (about 22 years) among

these participants, and used a traditional Chinese famous saying to convey his

understanding of being a teacher. According to him, teachers' most important

responsibilities are 'passing on knowledge, educating on various subjects, and

solving puzzles' (*chuandao shouye jiehuo*, 传道、授业、解惑). He considered it

essential for a teacher to have abundant professional knowledge in the subject

he/she teaches. Having a good mastery of pedagogy and psychology will be of

great use if teachers want to impart the knowledge effectively. Also, teachers

should know how to inspire and guide students. Anyway, students are not bottles

that are to be filled with knowledge by teachers. Instead, they are human beings.

Transmitting knowledge

Almost all the participants agreed that teaching mainly refers to the transmission

of knowledge in the subject they teach. As teachers in the senior secondary school,

the participants made efforts and spent most of their time on teaching, which laid

the basis for their job as well. According to the questionnaires (See Appendix1), it was considered as the core of the participants' professional life to be expert in the subject as well as in the relevant teaching. In Item 7, two of the three aspects of TPI mentioned here actually were closely related to the subject teaching: a subject matter expert (a teacher who bases his/her profession on subject matter knowledge and skills) and a didactical expert (a teacher who bases his/her profession on knowledge and skills regarding the planning, execution, and evaluation of teaching and learning processes). As for the points of the addition of the two aspects, all the participants provided a higher point than that of being a pedagogical expert. The highest points (90 out of 100 points) were from ST1 and ST3, while the lowest from LT1 with 60 points in total. Another finding here was that STEM teachers tended to provide higher points than those who teach languages or social sciences, thus showing more emphasis on the teaching of their subjects. In other items in the questionnaires, the prominent role of subject teaching could be detected as well. For instance, in Item 9, the teachers showed a focus on the trial of various learning activities in their teaching practice, with 4 participants choosing D (Agree) and 3 choosing E (Strongly agree).

In the interview data, rich evidence could be obtained to support the participants' responsibility of transmitting knowledge. ST3 thought that it was a 'baseline' for teachers to have a good knowledge of the subject he/she teaches and know how to teach it. Otherwise, as she frankly pointed out, the profession was not suitable

for him or her, since the inability to teach would make it impossible for a teacher to teach students.

SST1 said it was the teacher's job to conduct the knowledge and enable students to face tests like *Gaokao*. He added that his specific jobs mainly included preparing the lesson, giving the lesson, and correcting homework or exam paper. He stated that teachers were given large amounts of work, which took much time and energy on and off campus. At first, his time was largely spent in preparing lessons or making teaching plans, and sometimes he had to stay up and work after midnight. In addition, it was twice difficult for him to teach in Senior High Three, as he had more exercises and exam papers to finish than in other grades.

Some of SST1's opinions were echoed by SST2, who listed her three major jobs in school: preparing the lessons, reviewing students' homework, and giving the lessons. As for the participant's daily routine in school, SST2 stated:

Every morning in school, the first thing I do is correct all the students' homework. Then I make the analysis of the homework and decide what to teach in class. Based on this, I make adjustment to my lesson plans. After that period of teaching, I tend to reflect what has not been well taught, and try to make up for that in the following period by making adjustment to the lesson plans.

In the above excerpt, some important items are emphasized, such as the teacher's '**reflection**' after correcting the students' homework and 'making **adjustment**' to

the lesson plans according to the reflection. This kind of planning, execution and evaluation of teaching and learning process is what the pedagogical expert often adopts.

As for LT2, she based her teaching on the basic knowledge of the language she taught and students' improvement in language proficiency. When explaining how to plan her teaching, she gave an interesting comparison:

…this is like an ascending spiral path. Teachers should plan their teaching depending on the students' abilities, and help lay a foundation. Then teachers should help them to consolidate what has been learnt, and in turn students make progress by themselves. After that, the cycle continues…

Besides, LT2 shared her understanding of the function of exams. She said, 'Exams provide a good chance of reflection. Students' problems need to be found and discussed after the exam. Teachers can make full use of this chance to communicate with the students and their parents. In this way, students can make progress with such kind of joint efforts.'

ST2 did not only list some specific teaching tasks of the knowledge-transmitting procedure, but also explained the reasons behind these choices of tasks. He stated:

Teaching in senior high school features passing on the knowledge to students, so making workable plans of subject knowledge is a must. Making teaching plans based on the specific group of students is a dominant job for us.

Giving lessons is another important task for teachers. In these lessons, teachers implement what has been prepared in the teaching plan and also deal with something unexpected which is 'generated' in the real teaching.

To examine what students have learned, homework and tests are used. In this way, designing, assigning and correcting homework and tests is a third important task for teachers.

In this excerpt, some details of teachers' imparting knowledge are focused, such as 'making teaching plans', 'giving lessons', 'correcting the students' homework and tests', 'solving students' problems'. Also, they indicate an inheritance of traditional values in the Chinese educational system.

Cultivating people

As for the professional responsibilities of teachers, most teachers held that cultivating or educating people was the most important responsibility for the teachers in the senior high school. In the questionnaire (See Appendix 1), answers to the Item 10, the participants tended to consider themselves as a model for their students, with 2 of them choosing D (Agree) and 5 choosing E (Strongly agree). Besides, it could be inferred that the teachers of languages and social science placed more emphasis than the teachers of STEM on the teachers' responsibilities of cultivating people. In Item 7, these participants gave a comparatively high point (at least 30 points out of 100 points) when it comes to seeing themselves as pedagogical experts, especially LT1, who gave 40 points. By contrast, ST4 chose

20 points in this aspect and the rest three of the four STEM teachers chose 10 points.

Similarities were detected in the interview data, where the participants used various words to express this idea. Besides transmitting knowledge, SST2 added that loving and caring about students was one important responsibility for the teachers like her. Similarly, ST3 thought that educating people was of great importance for teachers. According to her, learning the principle of doing things and learning knowledge are not contradictory but supplement each other. The two aspects could work together to support students' development. In practice, ST3 thought highly of the role that teachers' communication with their students could play. As was suggested by her:

Teachers should be patient and tolerant. If the teacher is 'good' to his/her students, they will feel that kindness and take some action as a response to the teacher's kindness, such as asking teachers more questions or visiting the teacher's office more frequently than ever before. So the teacher should make full use of these chances to educate students when they are learning knowledge from teachers.

ST2 thought that being a teacher was a 'noble' job. The major responsibility for teachers is to educate a group of people, students. Teachers can have a sense of achievement, especially when they can help students to make progress or become successful in some aspects. Teachers often felt they were educating the teenagers, who are the future of the country. He stated:

Educating people (i.e. students) is significant for teachers. Accordingly, solving students' problems or puzzles is among the most important tasks for teachers. Teachers often offer advice or help when students face some difficulties in life.

According to SST1, it was the most important for teachers to educate people, enabling students to grow into a talent. With 2 years' experience of being a tutor, he felt that it was the tutor's job to detect students' pressure and offer comfort, suggestions, or even psychological counseling, especially in Senior High Three.

LT2 was an experienced tutor and she believed that tutors had to deal with many changes. She gave the explanation that the tutor has to be with students and that students are human beings. Since human beings are in essence very changeable, students vary greatly in personality. Therefore, the tutor ought to realize the **diversity** and educate the students in accordance to their individual aptitudes and requirements. In this sense, tutors had to keep studying and improving themselves in order to keep step with the 'changeable' students.

Besides, LT2 listed the teacher's most important tasks when it comes to cultivating students: to give guidance and supervision to the student. She introduced a famous saying, 'Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime' (*shou ren yi yu buru shou ren yi yu*, 授人以鱼不如授人以渔). That is to say, teachers should guide the students to know how to learn and live instead of just transmitting the knowledge. This is what the teachers in the senior

high schools should bear in mind, as students have to be an independent learner sooner or later. As for the supervision, students are still young and can be 'lazy' or passive in some situations, so the teacher need to find the suitable chances and methods to give adequate supervision.

ST4 thought that a teacher should not only transmit the knowledge, but care about his/her students' growth. He believed that he was not only a teacher, but also a person who should teach his students how to be a person. He described his way to educate the student:

…But I am still very young, so I can see the 'myself' among my students. This 'myself' is younger than 'today's me', but is the same age as my students. So I could not help sharing with my students some experiences and values of the younger 'myself'. If they can listen and take advice, my students can solve some problems when facing similar situations. Inspired by this idea, I tended to arrive at the classroom several minutes before the class, chatting or observing them.

It is interesting here that ST4 mentioned his younger self. It was implied that his younger self could, on many occasions in his early career period, serve as a role model as well as a friend of his students.

When it comes to cultivating people in their work, most participants concentrated on the students, but LT1 gave a different perspective. To be specific, though he agreed with the facts that students' growth made him very happy and that

cultivating students was at the core, he firmly believed that cultivating the teacher him/herself was more important. He explained:

The reason is very clear. I have to base my teaching on my own life stories, learning experience, way of thinking, values, etc. In this sense, cultivating myself is a prerequisite, which makes it possible for me to cultivate students.

Also, cultivating myself is teaching and improving myself by teaching others. When deepening the understanding of education as well as the subject he teaches, the teacher can form a new perspective or attitude towards life. In turn, the teacher can reflect on students' questions like 'What should I do?', 'How to spend my whole life?' In this way, teachers cultivate themselves when cultivating the students.

In brief, the development of students and the professionalism of teachers are inseparable. It is a two-way street. Cultivating myself is a kind of ability while cultivating others reflects the desire.

According to LT1, another major difference in cultivating people was largely decided by the subject he taught. Unlike many other subjects in the school which originated from the western world, his subject features the teaching and learning of the native language. Also, since it is deeply rooted in the native culture, this subject has the responsibility to help students with the inheritance of native civilization, traditional values and way of thinking. As was clarified by LT1:

While learning the subject, students can deepen their understanding of our native culture. Besides, they can become a greater thinker after learning the language and culture. When forming their own understanding of their native language, students can have a more conceptual knowledge of culture.

Improving professionalism

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ST1 thought that it was essential for teachers to improve their professionalism. When it comes to the teacher's responsibilities, ST3 held that teachers should improve the professionalism when facing some 'tasks', which could serve as the motivation. The task does not include the daily teaching, but refers to giving demo classes, producing exam paper, and other occasional special teaching activities.

LT1 gave some explanation of the motivation to improve himself. He admitted that he was faced with some pressure. Before standing on the teaching platform and interacting with his students, the teacher had to make good preparation, which called for sufficient reading and writing concerning the subject he taught. This was challenging, but pushed or motivated the teacher to learn more. In this way, the teacher was likely to develop his professionalism and deepen his understanding of the language he loved. In conclusion, he described this as a 'reaction thrust'.

However, other participants show some different attitudes towards the professional development for various reasons. The young ST4 showed the strong willingness to improve his professionalism, but indicated some difficulty or hesitation in his professionalism. He stated that it was essential for him to improve his abilities in many aspects and teaching ability was just one of them. Though he had the potential to do some research, but actually had little time. Besides, he felt that he had not obtained enough basic knowledge of the subject of technology. Due to a

lack of time and inadequate knowledge, he has not started doing research or improving professionalism in practice.

LT2, a representative of those who have been teachers for more than 18 years, showed somewhat a refusal to improve professionalism, but with a different reason. On one hand, she maintained that teachers should keep lifelong learning. Also, she felt that it was very demanding for teachers to hold the right attitude and find the suitable methods in jobs. So it is necessary to keep lifelong learning in order to develop the professional skills. One the other hand, she became less enthusiastic in this aspect. She described some periods that a teacher could experience in his/her professional development. Her description reflects some values that a senior teacher holds and indicates some reasons why she seemed to 'stop' improving her professionalism as a subject teacher. She mentioned at the end of the interview:

LT2: After working for some years, many teachers may experience the 'Stagnation period', a period when they seem to stop their professional development.
I: When is this period likely to appear?
LT2: After getting the Senior Teacher Certificate, teachers like me usually lose interest in the professional development. So we need the motivation or a new reason to develop ourselves.
I: Have you changed your understanding about the profession after becoming a senior teacher?
LT2: I have been more mature and have a higher degree of recognition for the profession than before. When I was a new teacher, I had many dreams and wishes for the job and was eager to integrate into the profession. Then the next period of my professional life featured self-reflection. But later, like many teachers, I experienced the 'bottle neck period'. Now I have entered a period in which I tend to maintain a peaceful mind.
I: what do you mean about 'peaceful'？

ET: My love for the job has been increasing and this kind of love is now very stable. Also the way I view myself has changed. When I was a young teacher, I considered myself as a worried teacher since I assumed that a lack of professional ability made my students laugh at me. Later, I focused on improving my teaching and gradually formed my own teaching style. Currently, I am in the mature period, and I need not worry too much about my teaching. So I have started to focus more attention on individual students and their personal requirements. Also, I focus more on students' growth than their progress in learning knowledge. There is a shift from improving my subject teaching skills to educating students.

Devoting to education

Teachers need to make efforts or even sacrifice in their work, according to ST2. But he admitted that to what extent teachers were willing to give or contribute largely depended on the individuals. It indicates that being a teacher is a job that largely calls for the teacher's own 'conscience'(*liangxin*, 良心).

ST3 believed that devoting to his or her job was a necessity for a qualified teacher. Besides, the professional dedication and the love for what he or she was teaching could embody the excellence of a teacher.

Working with others

The interview data indicated that most participants considered it necessary to work well with other teachers in the school. It was echoed by the data in the questionnaires. In particular, in Item 11, all of the eight participants believed that cooperation with colleagues was important for their work as a teacher, with 2 of them choosing D (Agree) and the rest 6 choosing E (Strongly agree). The interviews provided some rational explanation behind these choices. Working with colleagues

is an essential job since teachers are working together in the school, as was stated

by ST2. If a teacher wanted to improve his or her work, ST3 suggested the ability

to cooperate with others should be a crucial factor.

LT1 attached great importance to working with his colleagues. He even used the

phrase 'battle companions' to describe the teachers who worked with him,

especially those sharing common goals or values. He stated:

If you can get along well with your 'battle companions' and struggle together for the same goal, a
collective will be formed (in the group). You will have a sense of belonging to the collective and
feel its power and motivation. This state is very happy and honorable. … this also reflects a key
value in our native culture, harmony. Harmony does not only refer to getting along well and
happily with each other, but also represent a sense of militancy and the energy of positivity gained
from working as a team.

In the Information Age, a new tendency of working with other teachers can be seen,

which was described by ST4 in his remarks as follows:

ST4: … when preparing the lessons, I tend to communicate with a group of teachers in other
schools. We exchanged ideas and teaching materials through social medias like QQ, though we
have few chances to meet face to face.
I: How did this group come into being?
ST4: There are many teachers on the Internet, including some senior or junior schoolmates in my
university. Quite a few of them are teaching the same subject as mine. So it can save lots of time.
We have much communication in this way. We discuss and even debate heatedly with each other.
And many brilliant ideas and practical suggestions can be obtained. However, as most of us are
young teachers and we lack teaching experience, we hope to invite some experienced teachers to
join us, so they can provide some guidance.

4.2.2 Teachers' major roles in the school

Based on what has been discussed about the teacher's major responsibilities, some of teachers' major roles can be found. Besides being a subject teacher as a major role, teachers play some other roles in the school, including a tutor, a lifelong learner, a group leader, etc.

Being a subject teacher

As teaching is among the most basic functions that a teacher should perform in the school, all the participants attach great importance to the role of being subject teachers. And this has been analyzed in the previous section concerning their major responsibilities.

Being a tutor

Being a tutor is what most teachers have experienced in the school. In the Chinese context, this role shows some differences from other countries. The tutor is both a subject teacher of several classes and the person who is in charge of a class. The class here usually refers to a specific group (or class) of students who often study and stay in the same classroom on campus. Sometimes, the tutor is also termed as 'head teacher', which indicates that he/she is the head of the specific class and is expected to take charge of its various affairs. All the participants except the young technology teacher have the experience of working as a tutor in the senior secondary school.

As for the daily routine of a tutor in the school, SST1 stated, '…As for being the tutor, I <u>have to</u> be in charge of some daily affairs of my group of students, such as the discipline and hygiene. Sometimes I <u>have to</u> work after school or at home, especially in Senior High Three. <u>Time</u> is always not enough at all.'

LT2 put forward an important idea that a tutor should keep in mind: to guide the students to become independent. She said that students should be guided to adapt to life in the senior high school, the class he/she belonged to, and his/her learning of knowledge.

Being a tutor meant a mixture of 'pressure' and 'a sense of achievement', as SST2 described. She then told a story of her former student like this, 'One of my former students used to suffer greatly from a psychological disease. It was I who took him to visit the psychiatrist. Also, his parents trusted me very much. I felt a sense of achievement, because I made it possible for him to regain a new life.'

Here we can see the 'trust' from the student as well as the parent was emphasized. Though it took SST2 much time and patience to support the student, a sense of achievement was clearly felt, especially when she believed that the student's 'rebirth' was largely due to her effort. In this sense, the participant believed that being a tutor and supporting the student in and after class was one significant responsibility for teachers.

Being a lifelong learner

Teachers in senior high school are required to give demo classes, write research papers, and attend various trainings. That is considered as a must for teachers, aiming to help with their professional development. All these learning activities were experienced by the participants repeatedly, especially when a teacher was young or if one wanted to win some honors or get promotion in career.

Teachers tended to receive trainings or conduct learning activities in various ways, and some common ways of learning can be discovered. Take SST1 for example. During the first three years in the secondary school, a new teacher has to write essays, which is required by 'Teaching and Research Section' (*jiaoyan shi*, 教研室) of the city. This section is the basic unit of local educational management, to which the effect of education is related deeply. But this participant was not willing to do research or write paper. He really 'envied' those teachers who worked more than three years, as they could choose to write paper for their own sake instead of being forced to do so. Similarly, he was pushed to improve his professionalism by getting relevant training, giving demo classes, participating in competitions where young teachers showed their professionalism such classroom teaching skills. But for those working for more than 5 years, or the experienced teacher seldom give demo classes.

As the youngest participant who has worked for less than 3 years, ST4 had been required to give some demo classes and attend many trainings. Usually, the seminar within the group is a common way for him to get professional training, which features observing or giving demo classes and having the follow-up discussion with his colleagues. He found this was very rewarding. He provided some details as follows:

ST4: …I also received the training that is intended for the new teachers, who has worked less than one year. It is a compulsory training and all the new teachers have to attend it.
I: What does the training focus on?
ST4: Some general knowledge, if you want to be a teacher. Mostly about professional qualities.
I: What do you think of the training?
ST4: Is it useful? Frankly speaking, the purpose of the training is to obtain a certificate, and to show I have get the training. But it is useless! It is not practical and not inspiring for my teaching. The trainer gave some examples about how to be a teacher. But I have learned many better examples by reading books or learning from the Internet. So I need not listen to these boring stories. So this kind of training is just for the sake of itself. All you need to do is attend it and then turn in various materials and your writing.
I: What kind of training is useful?
ST4: Those relevant to the subject I teach, especially new tendency in my subject. And something about pedagogy and psychology, helping me know how to get along with students.
I: How will you meet these requirements about training?
ST4: Various ways. We young teachers know how to _**hunt**_ for what we need, and it will be faster if I try to realize that on my own in practice. I have a rough plan and will gradually carry it out. For instance, currently, I improve my professionalism by teaching as well as finishing other work in the school. In the near future, with time permitting, I am going to do some research.

Apparently, the young teacher demonstrated great strengths and a sensible mind in 'hunting' for information in various ways and had a strong willingness to learn and improve himself.

Other reasons for learning can be found as well. LT1, who has worked for 17 years, stated that though he was not a young teacher, he still had to join in some professional trainings as well as various meetings and conferences, which tended to be held at the weekend or summer vacation. Because he was the group leader of his subject in the school. It is common that the leader of a research and lesson group have to attend most of the trainings, workshops or activities related to his/her subject. After that, these leaders tend to organize relevant workshops in the group, mainly to train other teachers by sharing some ideas or information obtained in the trainings and activities they joined in. Another important reason for LT1's intensified training was that at that time he was teaching the students in Senior High Three.

Giving various demo classes or attending the relevant workshops is another common form of training for teachers in the senior secondary school. ST3 explained the reasons behind this 'practical' way of training. Usually, the demo classes are required to embody the spirits of the curriculum reform. For instance, the 'Key Competencies' (*hexin suyang*, 核心素养) of the discipline has been focused in most demo classes since the new curriculum reform was introduced. The trainings and demo classes served as one way to introduce and study these new policies.

Sometimes teachers, especially those who are young, are required to attend some 'irrelevant' training. The young ST4 had this kind of experiences for many times during his first two years in the school. He complained:

… (many of) the trainings I have received since I worked here are usually irrelevant to the subject I teach. For instance, once I was informed to attend a training on *how the school can make response to public opinion*. Actually, it is not relevant to me at all …   (*With some hesitation*). Well, maybe because all the others were very busy and I was the only one that was not occupied at that time.

Being a group leader

In the researched school, teachers are divided into some groups according to the subjects they teach. For example, the Mathematics Group is comprised of all the teachers who teach mathematics in this school. The group leader is in charge of most work concerning the group members, especially when it comes to teaching and doing research. To some extent, the group leader is equal to the department leader or head of a subject. They tend to be experienced teachers who are outstanding in their professionalism and show strengths in organizing activities and communicating with others. Two of the eight participants, LT1 and ST3, served as a group leader.

ST3 stated that her major role was not a leader, but a 'coordinator' in the group. She explained, 'For instance, if one teacher is going to give a demo class, the other members of my group will work together. As is often the case, we observe the class and then hold heated discussion on how to improve the teaching. As the leader, I

often thought very hard, focusing on how to guide the teacher. Another important

job is to lead the group to face the curriculum reform, such as working as a team

to make teaching plans after the introduction of the new series of textbooks.'

According to LT1, the group leader shouldered two key tasks: their students'

performance in *Gaokao*, and the teaching and research conducted by the teachers

in his group. He added:

From a utilitarian point of view, the scores that our students get in *Gaokao* are very important for
the students, parents and teachers alike. Actually, the good academic performance of our students
is a vital factor that enables the school to get social recognition and praise. Otherwise, the school
is very likely to lose the trust from the society…

In the school, the group leader is in charge of the whole group of subject teachers.

Besides, there exists a 'sub-group leader', who usually takes the responsibility of

leading the subject teachers in a specific grade. For instance, SST1 worked as a

sub-group leader in Senior High Three. He needed to make teaching plans or

schedule of the group and study the curriculum standard as well. These plans and

schedules tended to be different from those made for the other two grades in the

school, as one major task for the teachers in Senior High Three was to guide their

students to prepare for *Gaokao*, China's college entrance examination.

Being a 'nobody'

Though they were recruited as subject teachers, most of the participants could be

assigned with various tasks besides teaching, especially when they were new or

young teachers. The participants seemed to feel inferior when given some 'irrelevant' or dispensable tasks. But actually it is understandable and even beneficial for young teachers to have such kind of experiences. Though lacking working experience, the young teachers tend to have more energy, enthusiasm and extra time than many senior teachers, so it is natural for them to do some time-consuming and comparatively easy tasks for the team. Besides, the young teacher can obtain guidance and help from the experienced teachers or the school administrators when performing the task, thus gaining valuable chances to improve themselves.

ST4 said that he was appointed to finish many tasks that he had never expected. Before becoming a teacher, he assumed that his major tasks were to give lessons to his students, correct the homework, and communicate with the students. However, in reality, teaching just accounted for around 60 percent of his time, which he felt was quite 'abnormal' for him. He felt puzzled and a bit of 'strange', because he could not understand what specific responsibilities that this profession required. He added that this feeling might result from the fact that his role had just turned from a student to a teacher. As a young teacher, he kept asking himself questions like 'Who am I?', 'What should I do?', 'How should I do that job?', etc.

But the young teacher remained positive towards what happened to him. As a trainer of the competition concerning his subject, he had to work at weekends. But

he believed that this challenging and exhausting experience could help him with professional development. And when discussing about some seemingly 'irrelevant' responsibilities, he remarked as follows:

For instance, one of my jobs is to record or broadcast live some demo classes or school activities. Though it is very time-consuming and difficult for me, I have to try my best. There is much work in the school. As a member of the school, I am supposed to accomplish the task given to me.

But this can be considered as a good opportunity to get new skills, especially the ones that could not been learned in teaching or even in my university. Also, you have access to some new teaching equipment. More importantly, these experience can help me to broaden my horizon, which can in turn bring some inspiration in my teaching. Anyway, it is good to learn more skills, just as the famous Chinese saying goes, 'Many skills don't weigh on one's body (*ji duo bu ya shen*,技多不压身).

ST4's story indicated that though young teachers in this context often felt like a 'nobody', so it is significant for them to reflect how the teacher could change his attitudes towards what happened to him.

4.3 Perceptions of good teachers

No change will take place without good teachers (Hedges, 2000). Accordingly, it is necessary to interview the participants about their understanding of a good teacher before talking about the change that the curriculum change or reform has brought about. Besides, their perceptions can help infer what factors contribute to being a good teacher. More importantly, this part of analysis can reflect something about the participants' ideal professional self. The participants were asked to describe some features of good teachers and detailed explanation.

The questionnaire data relevant to being good teachers mostly came from the first open-ended question, saying 'What features does a good teacher have?' Teachers agreed in many aspects. Specifically, morals and virtues such as being kind, responsible and loving the job was mentioned repeatedly. Also, good teachers were believed to share features like having a good knowledge of his/her subject, teaching well and educating the students well. Cooperating with colleagues well was also an indispensable part of a good teacher.

The in-depth interviews with the eight participants showed many similarities with the questionnaire findings, and provided richer data as follows.

In the young ST4's opinion, a good teacher should, above all, be a good person, who shows great **kindness** to his colleague as well as his students. Secondly, a good teacher should have a good sense of **responsibility**, which can be embodied by working diligently. In addition, **aspiration** is another basic ingredient for being a good teacher. Without the will to succeed or the right direction to advance, teachers may feel puzzled or even lose the motivation to develop their professionalism.

SST2 listed some features of good teachers. She held that '… a good teacher should be responsible for students. Good teachers are willing to contribute to teaching and

supporting students. But they are not necessarily those who have obtained many honors or awards.' This was echoed by ST3, 'Devoting to his or her job is a necessity for a good teacher, which is often embodied in the professional dedication and the love for what he or she is teaching'. She also believed that a good teacher often featured a desire to advance. She explained, 'It is necessary for teachers to work autonomously and be keen to continue their professional development.'

According to ST2, it is significant for good teachers to know that the student's interest is both the starting point and the ultimate goal of all their work. Also, good teachers featured the willingness and abilities to teach well, so the combination of abundant professional knowledge and personal accomplishment was the basic requirement.

SST1 believed that the typical good teacher was someone who could teach each and every of his/her lessons in a marvelous way. 'This kind of marvelous way can not only attract the student's attention, but also go beyond the textbook and teach the students some life lesson. The teaching should be direct to people's heart and full of positive energy, thus helping students to keep up a good state of mind', he added. He advocated that this was at the core of education and the rest was not that important when it comes to the excellence of a teacher.

ST1 listed three major factors that contributed to a good teacher: the love for students, professional qualities and the ability to do research. Besides, an ideal state of being a teacher was pictured, in which the diversity or overall development of a teacher was thought highly of. As was detailed by her:

The 'diversity' of a teacher can help contribute to the happiness or interest of being a teacher. For instance, I hope to design an optional course which is irrelevant to mathematics, such as 'gardening' or 'boxing'. I believe that courses of this kind will be interesting and the teacher's life must be interesting. More importantly, the students will feel amazed and even learn from their teacher, which enables us to be a role-model of 'overall development' for our students.

LT1 emphasized that teachers' self-improvement and helping with the students' improvement were among the main features of good teachers. He further explained:

Firstly, good teachers are those who keep improving themselves. If you remain the same, from the first day when you entered the classroom till the last day before your retirement, you cannot be considered as a good teacher. Because your life has not changed in essence. You yourself need to make improvement and changes.

Secondly, good teachers can help their students to realize dreams and improve abilities. In other words, good teachers help improve their students by improving themselves.

LT2 thought that this kind of 'good' could vary from person to person. She stated, 'That depends. Specifically, some good teachers are devoted to teaching and they are good when it comes to teaching. On the other hand, others make more efforts to help their students than improve themselves, and they can be good teachers too.'

Briefly, good teachers should 'influence' their students in some aspects. Good teachers tend to take students' lifelong learning into account. Also, they teach students to gradually become independent. It is often inevitable for teachers to have cooperation with people off campus, such as parents, so a good teacher should know how to communicate and cooperate with these people.

4.4 Perceptions of 'best' teachers

This part of data focus on the participants' perceptions of 'Special Rank Teacher (SRT)' (*teji jiaoshi,* 特级教师), which promises to find some characteristics of SRT and to help deepen the understanding of teacher's professional identity as well. Despite the fact that SRTs tend to be considered the best teachers, the number of these teachers remains small. It is meaningful to explore the reasons leading to the shortage of the 'best' teachers. By asking why the participants have no interest or chances to become a SRT, it is likely to find some pressure or difficulties that many teachers are faced with in their work and life.

4.4.1 Characteristics of Special Rank Teachers

According to ST3, compared to ordinary teachers, SRTs tended to be more outstanding when it comes to the basic theory, academic level and the spirit of doing scientific research they own.

ST1 listed three major aspects of these outstanding teachers: dedication, strengths in studying theories, and the willingness to devote their time and life or even sacrifice. The ideal SRTs in her eyes were those who could be expert both in research and teaching. It was implied that many of the 'best' teachers were not that excellent. Also, it indicated that the relevant theory could be different from the real teaching.

ST2 stated that in the past, SRT had a 'halo' shining on their heads. Most of them owned both high-level personality charm and professional accomplishment. The number of SRTs was quite small and only a few schools had one or two SRTs. Therefore, becoming a SRT used to be a goal 'that is out of reach'. However, there were some evident changes later. He added:

… with the development of society, the number of teachers has increased gradually and so has the number of SRTs. Besides, society has constantly been diversifying, so the evaluation criteria of SRTs has changed accordingly. Today, many of them are an expert in one or some aspects instead of 'an all-around expert'. In some field, they do have advantages over other teachers. But they can be quite similar to others in many other aspects. For instance, some SRTs in physics are good at making experiments while others are good trainers of competitions for physics. But they may not good at making research.

In SST1's opinion, SRTs had the ability to detect what other teachers could not find. Many of them focused on doing research and spent much time and energy in writing paper. On the other hand, other SRTs were more interested in studying the *Gaokao*, China's national college entrance exam. However, he considered SRT to be merely

a title for some of them, who was just busy 'guiding' others instead of working as a real teacher.

LT1 thought that only the outstanding ones could become an SRT, mainly due to their professionalism and enthusiasm for the profession. It was difficult but valuable that these teachers had put all their efforts into education, usually lasing for a long period of time. Being dedicated to teaching and researching was what made them distinguished and respectable. Besides, when clarifying SRTs into several categories, he explained as follows:

Some of them are more 'theoretical' while others more 'practical'. Some focus more attention on educating human beings while others studying a specific subject and exploring for some frameworks. Teachers themselves are a group of very complex human beings, so they must be stratified and diversified.

As for the subject I teach, different kinds of SRTs can be found. Some 'theory-oriented' teachers are very influential at the national level, who often host some projects concerning new curriculum reforms. Other SRTs often publish books and supervise their students to experience and explore in his pure world of humanity. As for some 'practice-oriented' teachers, they are expert at studying the teaching of the language, trying to make every of his/her lesson marvelous. When joining in some seminar, they tend to give demo classes, give critics and share their ideas with us. I can borrow a lot from what they have shared, which can be very inspiring in my own teaching and life.

However, ST4 gave a contrasting example about SRT. He said that he had seldom met SRTs and the most 'impressive' SRT was his chemistry teacher in his senior high school. He gave the story as follows:

… Admittedly, no one is perfect, so it is almost impossible for a teacher to care for all the students.

At first, my classmates and I all felt very honored to have a teacher with such a high title. But later I felt 'marginalized' by my chemistry teacher. My academic performance in chemistry was not good or bad, so I was ignored by him. …maybe it was due to his age, as he might lack enough energy and time to teach students and communicate with them. In my opinion, SRTs are not always the best teacher, though they must be the best ones at a certain period. It is true Special Rank Teachers must be experienced and superb at a certain aspect. As for me, this does not represent the 'fixed' excellence, but a title that changes dynamically.

By contrast, my tutor in the senior high school is a new teacher of physics. He was very energetic. He was not only good at teaching us in class, but also tutoring us after class. He often communicated with us in various ways. Each and every of us felt loved and cared by our tutor, including students like me. In turn, we were more interested in the subject of physics and our academic performance improved rapidly. We all believe our tutor is definitely a good teacher.

LT2 believed that SRTs featured a wealth of accumulation in their work and the extraordinary personality charm. She described three major characteristics of them. Above all, these teachers tended to be diligent and have clear goals in career. Besides, being very influential was their second feature. They were the group of outstanding teachers that all the teachers could learn from. The most important role that SRTs could play was to set good examples to other teachers and to lead them in professional development. Finally, devotion was another important

element of SRTs. They were devoted to working, teaching and researching. Also, they spent much time and energy in reflecting their work and writing paper. She compared SRTs to the weather vane and said, 'They are leaders of a specific subject as well as its teachers. SRTs are like the weather vane, indicating the direction and influencing other teachers'.

In brief, based on what the participants said, it can be concluded that most SRTs are outstanding teachers who can surpass other teachers in some aspect. They demonstrate unique personality charm and show great strength in professionalism like researching, teaching and studying.

4.4.2 Willingness to become Special Rank Teachers

As for the question whether he/she wants to become a SRT, participants' views were divided. Some showed obvious willingness, others unwillingness, and the rest demonstrated hesitation. Based on this part of data analysis, some difficulties or pressure that teachers have met can be detected and studied.

Showing willingness

ST3 seemed to be the most 'ambitious' participant, since she stated that 'every' teacher wanted to be an SRT. However, the reality prevented her from achieving this goal. She explained some difficulties:

Every teacher wants to be an SRT, but that is not easy. Here are some reasons for the challenge. Above all, much <u>time</u> and <u>energy</u> have to be invested or even 'sacrificed' to win the title. Besides, the <u>opportunities</u> are needed.

Anyway, the key is the teacher him/herself. Many teachers choose to be devoted to teaching instead of attaching importance of personal development, as they feel it is difficult to strike a <u>balance</u> between them. Specifically, most of them spend much time in tutoring individual students in school and educating their own children at home, thus lacking time to learn and develop professionally. Otherwise, they have to 'sacrifice' the time to sleep or even their health if they want to make personal and professional improvement."

Similarly, ST4 showed some optimism over this question. He explained, '… a **goal** is necessary. As for most young teachers, we may make some passive remarks, like "Oh, I don't need or want that title!". But if you were given that title, would you accept it? Of course! I think it (the title) is like a **destination** that can encourage us to move forward. When water flows, a channel is formed (*shui dao qu cheng*, 水到渠成). If you obtain the required ability and the conditions are ripe as well, success will come in turn. Anyway, we need to be well prepared mentally and psychologically. You need to make more efforts than others, and suffer and bear more. That title is not easy to gain. You must be very unique in some aspect, making you an extraordinary teacher.' Briefly, ST4 considered the SRT as a goal, a destination and a title. He mentioned that the teacher's 'ability' and the 'condition' are two important factors, which was echoed by what ST3 believed. Also, he discussed how young teachers could make some mental and psychological preparation, if they wanted to become an SRT.

Showing unwillingness

By contrast, most participants showed unwillingness to become an SRT, but they gave different reasons. For instance, LT2, who had worked as a teacher for about 20 years, showed the satisfaction of being an 'ordinary' teacher. She provided some reasons behind her refusal to becoming an 'all-round excellent' teacher.

I: Do you want to be a Special Rank Teacher?"

LT2: No! I don't hope so. (Smile.) Frankly, as for me, I feel it is good enough for me to do the job well. Specifically, I just hope to be a good teacher of English as well as a good tutor. To be a Special Rank Teacher, you have to do much more than teaching well in practice. You need to be extraordinary and expert in theory. And then you have to do research by putting your theory into practice before writing the relevant paper on your research. The requirement is too high and that is too much for me. Maybe I am a little 'lazy', since I cannot put my idea into practice and my capability of doing research is really limited.

I: It is said that the Special Rank Teachers spent more time in their professional development than others. Do you agree with that?

LT2: It should be. A real SRT ought to have sacrificed more time and efforts in the specific area that he/she is interested. They are devoted to doing research and studying the relevant theory. On the contrary, many "ordinary" teachers devote themselves to the teaching practice and educating students. Briefly, these two groups of teachers differ greatly in two aspects: how to allocate their time and energy; deciding what to focus on and leave out.

SST2 said she knew little about it and she was unwilling to be an SRT. She stated that the assessment of this title was said to focus on 'doing research', such as papers of high quality. However, she added, 'Who knows whether this group of teachers can teach well.' When it comes to doing research, she mentioned pressure again and further explained:

I lack the 'confidence' and feel the great pressure. Also, I think it is unnecessary for the students and teachers in the senior high school. I think it is better that senior high school teachers apply in practice the theories that experts or teachers in the university have formed.

As for doing research, I am not confident at all or very weak in this aspect, though I am very confident to give a lesson to my students. Also, it is 'practical' for the students to have teachers who can give good lessons and answer students' questions. So (teachers' doing research) is not that important for the students. But teachers' doing research may be important for the school since it needs some **'software'**, like the number of papers or research our teachers have published. Also, it is a must for teachers when we want to get some professional titles or promotion, which is of great pressure. In brief, I am willing and happy to explore how to give good lessons, instead of being forced to do research.

Showing hesitation

When answering this question, SST1 showed hesitation: 'Yes or no? Eh, I might as well say no. Aha…Actually, it is satisfactory enough for me to do well in teaching and be popular with my students. With that kind of title, you may face many troubles or difficulties. For example, you have to organize and host endless meetings in various places. Also, you have to give others teachers suggestions on their work, which can be disliked by them.' His understanding of TPI is reflected here again: to teach well and to get students' trust. Also, SST1 seemed to dislike the extra work (e.g. becoming SRTs means holding many meetings) and negative responses from other teachers (e.g. being disliked by other teachers).

Similarly, LT1 showed obvious hesitation when it comes to the willingness to become a SRT. He answered the relevant questions as follows:

LT1: … a Special Rank Teacher? Well, a Special Rank Teacher… It is difficult. And I have never given this question a thought.

I: What makes it difficult for you to become an SRT?

LT1: Many difficulties. For instance, it depends on whether you can be <u>peaceful</u> in mind and '<u>purer</u>', without anything or anyone bothering you. Also, it depends on your <u>desire</u> and you need a strong one. Other elements include the '<u>platform</u>', <u>opportunities</u>, etc.

I: Will you feel discouraged if you have no opportunity to become a SRT?

LT1: On the whole, the SRTs are the best group of teachers, which is undoubted. Certainly, certainly, certainly, there do exist some 'Uncrowned Kings' and these outstanding teachers have the same experience or abilities as SRTs but have no such title. Admittedly, the influence of SRTs is obvious and significant, whether the influence is on some teachers as well as their students, on a school or even on a region. By supervising some young outstanding teachers, organizing conferences, and leading some research, they shared their values and experiencing. Their professional levels can influence or even decide the quality of the local educational system.

4.5 Summary of chapter

Data analysis made in this section provide much inspiration to answer the first research question: what characterizes the teachers' professional identity (TPI) in the researched school? By firstly focusing on how the participants perceive their responsibilities of being a teacher in the high school, some basic components of the TPI can be found: transmitting knowledge, cultivating people, improving professionalism, devoting to education, working with others, etc. The participants' roles in the school are accordance with their responsibilities: a subject teacher, a tutor, and a lifelong learner. Some of the participant teachers serve as a group leader while young teachers tend to be 'nobody' in the school, and teachers with these two types of roles are often appointed with various extra tasks.

The exploration into the participants' understanding of being a good teacher and a Special Rank Teacher is made in sequence. The rationale is that good teachers are essential for educational change (Hedges, 2000). More features concerning the participants' ideal professional self can be detected, such as kindness, a sense of responsibility, aspiration, and the ability to do research. Also, the data concerning the good teacher and SRT indicate that some difficulties or dilemma can be seen in these participants' work and life, especially when they meet some educational change or want to make improvement in their professional development.

In brief, the first research question can be well explored and some themes related to the senior high school teachers' TPI can be found, thus paving the way for the further discussion in the following chapter about the reshaping of TPI in the school curriculum reforms.

Chapter 5:
The impacts of curriculum reforms on TPI

This part of the data analysis is mainly guided by the second research question:

How and why did the TPIs evolve in the curriculum reform during the studied period?

Based on the data from the questionnaires, interviews and relevant documents,

the major findings will focus on the impact of curriculum reforms on the participants'

perceptions of their professional identity. Data obtained from questionnaires

showed that difference as well as similarities did exist in the changes of these

participant teachers' TPIs, though most of them experienced the same curriculum

reforms. The interview data helped make some further exploration in the details of

different responses to curriculum reforms. Also, the reasons why TPIs were

reshaped in various ways were discovered as well.

As for the structure of this chapter, it will begin with the description of the reforms

that made the biggest impression on teachers, hoping to find some prominent

reasons for the participants' reshaping their identity in reforms. The major part will

firstly present a big picture of the influence of curriculum reforms on the TPIs of

the researched school, and then detail the themes which are divided into two

categories: the positive aspects of the reforms and the negative ones. By exploring

the teachers' positive and negative perceptions, their training, and their

implementation of reforms, it could be detected how the reforms altered the

participants' professional identities and in what ways that some key factors

influenced the TPIs of the school as well as its teachers. Based on the analysis of impacts on the participants' identities in various aspects, some new versions of TPIs will be introduced briefly at the end of this section.

5.1 The reform(s) that made the biggest impression

The documentary data showed an obvious impact of the new curriculum reform on the researched school. For instance, the new changes of the curriculum reform stated in the government documents were mentioned timely and repeatedly in 'the Working Plan of the School', the working plans and the yearly summary reports of the Teaching Affairs Office. Another typical example was that a sharp increase of school exams was seen in the 'The School Calendar' since the introduction of the educational change in 2014 when the new curriculum reform made some dramatic change in *Gaokao*.

The interview data showed many similarities with the documentary data in this aspect. As for the question 'Which reform(s) made the biggest impression on you?', I did not ask this question until the third participant was interviewed. The major reason for this slight change was that I found the first two participants seemed puzzled about which curriculum reform(s) I referred to. Therefore, I wanted to clarify this by adding this question before asking other relevant ones. It is very rewarding and amazing that the six participants' answers actually highlighted some

significant changes of their TPIs caused by the curriculum reforms and revealed several specific reasons behind these changes.

The new requirements in documents concerning curriculum reforms were a significant factor reshaping the participants' perception of being teachers. ST3 stated that since she started working as a teacher (in 2002), the proposition of the concept 'Three-dimensional Aims' (i.e. *sanwei mubiao*, 三维目标) had some obvious impacts on teaching and learning. To be specific, the learning mode of the students was changed and featured cooperation and exploration. Since then, this advanced idea has been embodied in many classroom activities and tasks. Another big influence started in 2014 when the core ideas like 'key competencies' and 'Big Concepts' were advocated in the latest curriculum reform. Up to now, values and beliefs of this reform have been introduced and embodied in many teaching and research activities. However, slight changes could be found in the real teaching. It is like setting up a pole (i.e. the reform), whose shadow (i.e. the impact of the reform) has not been seen. The major reasons for the delay could lie in the fact that the new series of textbooks have not been used in schools and the relevant training had not been carried out among all the teachers.

Changes related to China's *Gaokao*, the National Entrance Exam, have played a prominent role in altering the TPIs. According to SST1, the most influential

curriculum reform was the latest reform mainly because it was closely related to *Gaokao*. He explained：

In the past, students are divided into two categories: students of science and art. Now all the students can choose three out of seven subjects. This big change has totally influenced our teaching as well as students' learning and strategies of making choices.

The importance of curriculum standards has been emphasized by LT1, who has experienced two impactful curriculum reforms. The relevant dialogue went as follows：

LT1: The first impressive curriculum featured 'Three-dimensional Aims', which was introduced in around the year of 2001. And another was 'sensed' in around 2017, which was actually caused by the introduction of the New Curriculum Standards in 2014. As for me, I quite agree with many values encouraged by the new curriculum standards.

I: Have these reforms influenced the teaching and learning of Chinese greatly?

LT1: Yes, especially the second one. Above all, it changed the values of the teaching in my subject area. Besides, the patterns and methods of teaching and learning have all been changed considerably.

The introduction of optional courses into the school curriculum was another factor that caused changes. ST4 gave an interesting description of a curriculum reform that he experienced when he was still a senior high student. He explained in detail:

There was a very 'hypocritical' reform in my senior high school. I remembered in 2012 we were informed that we were provided with various interesting courses, from which we can choose freely. They were named optional courses and we were asked to select some of them. My classmates and I were very excited and started to picture in our mind the scene of taking courses like Fishing or Repairing Cars. However, soon our tutor came to tell us, 'These courses are fake ones. You need do nothing but get the schedule. And you need not take the real lessons. They will be used when

the inspectors arrive.' Wow, that was very unforgettable. We all felt very disappointed and cheated. On the other hand, we longed for that kind of courses, which offered chances to learn new knowledge as well as relaxing us students since our life then was filled with schoolwork and pressure.

According to LT2, the change of textbooks led to the two biggest curriculum reforms that she has experienced. She remembered that in 2000 the textbooks made big changes and that was the year when she became a language teacher. Later, the textbooks made some changes from the year 2006 to 2009. Major changes of the textbooks included the change of content, the increase in the vocabulary as well as in the difficulty and length of passages. As for other impressive reforms, she referred to the 2014 curriculum reform featuring the introduction of 'Key competencies'. But she added:

…But some key values in the teaching of the language remain the same, whether the curriculum reform advocates 'Three-dimensional Aims', 'Four-dimensional Aims' or 'Five-dimensional Aims'. Also the key requirements for students' abilities have not changed considerably. That is, these abilities refer to the learning ability and the comprehensive development of students.

In conclusion, most participants agreed that the most impressive or influential reforms are the 2002 reform and 2014 reform. The curriculum reforms implemented since 2014 actually come down in continuous line with the 2002 reform. However, the impact of reforms has not been obvious. The reforms have not got instant results.

5.2 A big picture of the influence of curriculum reforms

Data obtained from questionnaires provided some basic facts concerning the influence that curriculum reforms had on the TPI: difference as well as similarities did exist in the changes of these participant teachers' TPIs, though most of them experienced the same curriculum reforms.

The multiple-choice questions in the third section of the questionnaire (see Appendix 1) could help explore the participant teachers' understanding of changes and evolution in curriculum reforms. Choices about Statement Item 15 (The curriculum reform has changed my understanding of a teacher), Item 16 (The curriculum reform has changed my own teaching practice), Item 17 (The curriculum reform has helped improve my teaching ability), and Item 18 (The curriculum reform has helped improve the students) saw divergence in participants' perceptions of the reform effectiveness: about 50% of the participants chose B (Disagree) while the rest mostly D (Agree) and/or E (Strongly agree). It indicated that around half of the teachers held positive attitudes toward the effects of the curriculum reforms while the others showed negativity clearly.

By contrast, similarity was seen in the remaining items concerning teaching practice, with 6 participants choosing D (Agree) in most of the six statements. These statements were utilized mainly to discover how the eight respondents implemented some key requirements of curriculum reforms in their teaching practice, including 'school-based optional courses' 'student-centred' and

'informationization'. According to the findings in the previous section, half of the participants did not agree with Statement 16, indicating that they believed that the curriculum reform had not changed their own teaching practice. However, it was interesting to find here that what teachers did in practice could be different from what they thought in mind. It could be concluded that these teachers had followed what the curriculum reform advocated, though they held various attitudes or beliefs about the reform.

Two out of the three open-ended questions contributed to the big picture of the TPI change as well. Question 2 (Do the teachers welcome the implementation of curriculum reform in your school? Why?) and 3 (In which aspect(s) has the curriculum reform influenced your professional development?) emphasized different aspects of the impacts. Answers to Question 2 showed that most participants (6 out of 8) agreed that curriculum reforms were well received in the researched school. However, the teachers pointed out that to what extent the reform would be implemented depended largely on the reform itself. For instance, it should be taken into consideration whether the reform would benefit the students. Question 3 provided rich data concerning the influences that the curriculum reforms had made on the teachers' professional development. Relevant changes were found in teachers' beliefs and practice, including those concerning pedagogy, professional knowledge, teaching materials, teaching methods, and teaching evaluation.

5.3 Positive aspects of the reforms

Based on the findings obtained from the questionnaires and documentary data, the interview data helped further exploration into the details of different responses to curriculum reforms. Also, the reasons why TPIs were reshaped in various ways were discovered as well. The themes produced with the interviews will be divided into two categories: the positive aspects of the reforms in the current section and the negative ones in the next section. Exploration will be made about the teachers' positive and negative perceptions, their training, and their implementation of reforms, etc.

5.3.1 Effectiveness and efficiency

In the new reform context, many teachers started to change their understanding and practice of teaching. They increased their awareness and knowledge of the curriculum reform and then integrated them with their own values and experiences, thus improving the effectiveness or efficiency of their teaching in practice.

As for ST1, she once adopted a 'new' way to increase the effectiveness of her teaching when finding that some students learned better from their peers instead of the teacher. Inspired by this phenomenon, she encouraged several top students to become 'teachers' in her class. That proved very effective, though it was used only on a few occasions. In essence, she used group discussion or peer learning which is encouraged by the curriculum reform, but designed the teaching and

learning in her own way. This showed the participant integrated what was required in the curriculum reform with her understanding of the subject teaching as well as her own teaching experience. This way of implementing the curriculum reform proved to be effective in her teaching practice.

ST3 thought the informationization of the school curricula did bring some benefits. She believed that it could bring higher efficiency to classroom teaching and provided an example to illustrate her belief. 'For instance, I designed an in-class activity which features doing a survey concerning genetic diagnosis among my students. In the past, I asked several students to stand up and answer some relevant answers in the survey, or adopted the group discussion to carry out this activity. But that could be embarrassing and even invade my students' privacy. But now every student has a pad and can do the survey very fast. Hiding my students' names, I can present the result of the survey on the screen immediately they finish it. And then I can continue my teaching based on the real-time data collected among the specific group of students. This makes students more identified or related to the teaching.'

However, ST3 added that the effectiveness and efficiency of the infomationization largely depended on the individual teacher. In the real teaching, teachers needed to consider whether the new technology should be adopted in the specific lesson

and how to use it. But sadly, in many situations, many teachers used the new technology just for the sake of it, without giving much thought.

As for the informationization of teaching, ST4 considered it as a norm and necessity. For instance, when asked about the adoption of pads in the school reform, he stated:

Pads? Oh, I have mastered many relevant skills about pads in the university! They included using the flapped classroom, using searching engines, etc. So I am very familiar with these systems! And, to some extent, I 'rely on' them. You can use them to do many cool things. Without the equipment like pads or some systems, I cannot imagine how 'low' and slow my class could be.

In practice, I often made a video about an experiment before class. And then I used it in class and delivered to my students' pads after class. My students and I all feel it is very convenient and useful. This change of the reform is a good one. But I still need to learn more about how to use it well.

LT2 thought that the modern technology should be made good use of and could bring students some benefits, providing more chances and convenience to practice the language after class. For instance, like most of her colleagues, she tended to use the pad to help students with their pronunciation and improve writing skills. Some good examples along with abundant feedback were shared among students, thus they could not only learn from the teacher but also from their classmates or even schoolmates. Anyway, teenagers are always teenagers. Some students were not disciplined on the Internet, which called for more attention from the teachers.

When it comes to the evaluation of the students' learning, the curriculum reform put forward various methods besides exams, attempting to increase the effectiveness of assessment. Take LT2 as an example. She described her way of evaluation in detail:

There is a diversity of strategies to evaluate students, which is suggested by the curriculum reform. The process of students' learning can be assessed in aspects such as their attitudes, methods and participation. The process is emphasized here, which is different from the traditional summative evaluation (i.e. using exams). These methods include the teacher's praise, the observation and record from the peers, the student's portfolio, etc. This kind of combined way of assessment did encourage most of my students, especially the comparatively 'weak' students. Many of them did make progress. Anyway, the specific way of evaluation was decided by my own choice and exploration based on the reform policy.

5.3.2 Effective professional development of teachers

When it comes to the influence of the curriculum reform on teachers, most participants accepted that their professional development has been promoted. They realized that choosing this professional means that lifelong learning was a crucial response to the change and challenges of curriculum reforms. Their abilities have been fostered, including the reflection ability, the research ability, the communication ability, and the ability required by the informationization of education, etc.

The reflection ability

Here the reflection ability means that teachers reflect on some students and educational activities and then try to analyze and improve them. It can be

embodied by teachers' various behaviours, such as keeping educational journals or blogs, making reflection and having discussion with other teachers in the same subject.

SST1 said that, to face the new reform, he made two major changes concerning professional improvement. One was that he made more efforts and spent more time in reading some educational magazines and searching for suitable teaching materials or curriculum resources. He said that he was not 'forced' to do so. The other big change was that he had the 'daily workshops' with an experienced teacher in his office. Every day, they discussed about the problems that they met or brilliant ideas that they produced, usually immediately after they finished the teaching or correcting the students' homework.

ST3 tended to compare what she did in the teaching practice with what was required by the curriculum reform. She gave remarks to explain the significance of the curriculum reform:

In the past, I made some changes in my teaching but that was 'unconscious'. But now many things are very clear and they are systematically stated in the documents concerning the curriculum reform. It is not 'grass-root' but based on relevant theories. It also helps teachers to have a big picture before making teaching plans, so I quite agree with the values and beliefs advocated by the curriculum reform. However, what matters is the implementation of the curriculum reform policy. How to make *Gaokao* 'identical with' curriculum reform is of a great challenge. Our solution is that 'Excessive Assignments Tactic' (*Tihai Zhanshu*, 题海战术 in Chinese) is widely used in our daily teaching, especially in Senior High Three. In teaching new knowledge, especially in demo

classes, values and beliefs of the New Curriculum Standards are adopted and enhanced. In essence, the current *Gaokao* focuses too much on the textbook, which does not well reflect the value promoted by the new curriculum reform. *Gaokao* tests more of the details of textbooks, which seems to be textbook-centered, while the New Curriculum Standard focuses more on the application of core knowledge of our subject as well as the abilities of the students.

After teaching for almost two years, the young ST4 felt his lack of some basic subject knowledge, and he seemed very motivated. He explained in detail:

ST4: I really felt it a must to get some further education. It will be perfect if we can return to the university to get further education again.
I: If you can choose, what kind of further education do you want?
ST4: Something related to my subject teaching or about my professional knowledge. For example, I want to further my learning about Electronic Control Technology. As for other experienced teachers, I think they pay more attention to students and research, so they want to learn more about research methods.

The research ability

The research ability is enhanced mainly towards teachers' educational thought and practice during the curriculum reform. When talking about how to adapt to the curriculum reform, LT1 stated:

To learn more. Learn more about the spirit of the new curriculum reform. Learn more and make more research. Learn more about what the good teacher has done for that. At this point, the Special Rank Teachers can set good examples as well as acting as leaders in the reform.

ST3 believed that the curriculum reform is greatly relevant to teachers' professional development. Specifically, she said that she received some large-scale trainings.

These trainings mostly focused on the subject that she taught, and some on the general knowledge of the new curriculum reform.

Besides, ST3 believed that a good teacher should study the new curriculum standard and try doing some research concerning the subject he/she taught. Otherwise, it would be difficult for teachers to adapt to the new trends in the reform, and they were likely to face difficulty in the real teaching. As for other characteristics of a good teacher, they were quite similar to those agreed on before the reform, such as the dedication to education.

ST2 pointed out that some changes had taken place in the arrangement of courses mainly due to the 2002 curriculum reform. Before that reform, there had only existed compulsory courses in the senior high school curriculum. But then optional courses were very familiar to teachers. Some of them even designed school-based optional courses, which were intended for students in a specific school. Many optional courses were in fact the extension or supplement of the compulsory courses and benefited students greatly. Admittedly, teachers differed greatly in the ability of designing optional courses, so they were pushed to learn more about the curriculum policy and make full use of their own strengths and interest.

According to ST3, teachers needed to improve their research abilities when realizing their **autonomy** of curriculum. In her subject, teachers adopted the same

series of textbooks. But that was not adequate, so they often added some other relevant materials or replaced some parts of the textbook. Also, they adopted some contents and activities that reflected the local culture. Therefore, they needed to improve their research abilities, deciding how to integrate various elements into their educational practice, such as the core knowledge of the subject, textbooks, the students' interest and requirement, and the local cultures.

As for designing the optional courses, LT2 admitted that it was an 'extra burden'. However, she believed that teachers themselves could make progress when doing so, especially when the teacher was making efforts and thinking hard to create some new ideas. This idea was echoed by LT1, who stated that designing optional courses actually meant giving teachers the task as well as the right to participate in curriculum design. The potential benefits were explained as follows:

If time and energy permits, that will help teachers with their professional growth and increase their own 'teaching expertise'. If we teach the compulsory courses and use the same textbooks, teachers' visions will be quite similar. If we design and use the textbook for optional courses, we could 'redefine' ourselves as teachers, and even create a 'label' showing we are unique. Anyway, the teaching expertise that a teacher is good at or feel comfortable with is slightly different from what he/she is currently engaged in.

The communication ability

The ability to exchange and cooperate with others is of great significance for teachers, as others' ideas can inspire them to create their own ideas or make progress in order to stay current and keep updated in the complex and ever-

changing working environment. For example, LT2 regarded it as a reward. Because

of the reform, she, on behalf of the school, gave demo classes and lectures to

teachers from other schools or even from other cities. Like many other teachers,

she considered the demo class as a way to spread the new policy of curriculum

reform and exchange ideas with other teachers. Besides, when asked about the

most influential reform at the school level, LT2 mentioned another benefit that the

reform has brought in:

There has been a sharp increase in the communication between schools. I think this kind of
communication is very informative and we can learn a lot from each other. Also, it is a necessity
for today's teachers to own the ability to communicate and exchange with others, which can also
help me to see others' brilliant ideas.

ST3 used an interesting item to describe the exchange and communication within

a specific group of teachers: work as a team to make teaching plans. She gave the

detail as follows:

The advantages of doing so are various. For instance, All the members of the group, especially the
young teachers, can learn a lot and develop their professional skills. The whole group work
together to face the challenge caused by the new curriculum reform. The teaching content and
pace can be kept the same among teachers. The average scores of different groups of students
are kept similar and many students have improved their academic performance.

The ability required by the informationization of education

All the participants agreed that it was inevitable to improve their skills of using

technology. Though most of them felt the age of informationization had not arrived

in the field of education, they believed that some changes could be revolutionary

and even beyond imagination. As for the application of technology in the future, LT1 thought it was very likely that the artificial intelligence (AI) would be used in education, though he has not imagined the relevant details. He pictured some changes as follows:

There must be many influences caused by technology, affecting the education as well as in the language teaching and learning. For instance, the exam paper will be corrected by robots or machines. If AI is introduced in the classroom, students can have access to knowledge as fast as the teachers and they can be even quicker than you. That will be a great challenge for the teacher. Now, we teachers are still the owners of knowledge as well as the hosts of the classroom. It is easy to conduct the 'strong education'. But at that time students have access to wide sources of information. So how to change the way of teaching and learning? The future form of teaching is likely to be more interactive and cooperative and exploratory. The democracy of education will be different.

Evidently, it was necessary for teachers to master the skills of applying technology in education and it was delightful that the participant realized the importance and started taking into account the potential way of teaching and learning in the future.

5.3.3 Improvement of instruction

Emphasizing student-centred learning

When it comes to the content and mode of teaching and learning, some changes were seen in the participants' perception of being a teacher. Since the curriculum reform was deepened in 2014, one big change was that the Situational Teaching Method was actively advocated, which featured designing different tasks. This teaching method was believed to realize the full interaction between the teacher and students, prompt students to actively explore questions, think about problems

and solve problems in the learning as the master of the classroom (Jing, 2018). Accordingly, some ideas of the new curriculum standard (cooperation, exploration, autonomous learning, etc.) were attached great importance by teachers in the real teaching.

ST2 pointed out that one major change was in teachers' philosophy of education, which also led to some changes in the teaching practice. Most teachers seemed to have a clear picture of the tendency in future education. For example, the curriculum reform demanded a change from 'teacher-centred' to 'student-centred'. In this regard, the evaluation criteria of the demo-class have changed from focusing on how talented the teacher was to how effectively the students have learned.

ST1 thought that there were not many changes in the curriculum reform, saying that the changes were just some slight ones in some aspects. One good big change that impressed her was in the teaching aims, which emphasized both the development of thinking and teaching for knowledge or for tests instead of the previous 'teaching-for-testing' tradition. Besides, changes were seen in teaching materials. Teachers also had the right to choose other materials to make up for what was not included in the 'textbook'. But in mathematics teaching, almost all materials were decided by and based on what would be tested in *Gaokao*, China's national college entrance exam.

Inspired by the changes mentioned above, ST1 introduced the 'Topic-oriented Teaching' in her class in Senior High Three. This method was created by her and her colleagues. Though it was only used occasionally, her students did benefit from this change in the subject teaching. Briefly speaking, her teaching and learning modes featured that students could teach themselves. She explained how she created and adopted the method, when explaining her lesson plan in one interview. Typically, she started by replacing some traditional in-class activities (e.g. teachers' giving lectures, students' doing exercises) with this new method of teaching. Then she encouraged several top students to be volunteers, who could choose a topic concerning the subject knowledge in the textbook or *Gaokao*. The students were supervised by her and then taught other students and organized the relevant seminars in class. After that, ST1 made some supplement, based on what the students had been 'taught' and mastered.

In the discipline of LT1's teaching, the idea of 'Task-driven Learning' has been put forward in the New Curriculum Standards. Traditionally, the instruction was teacher-centered, which featured teachers' lecturing or 'the instilling of knowledge' in class. In other words, the teacher possessed the knowledge and then imparted it to students. But in 'Task-driven Learning', students become the main body of learning, who gain knowledge and experience by finishing tasks. He added more details:

The textbook has some big changes. The core change is that a task is given in each unit, which usually consists two to four texts. In this sense, students have to learn by studying 'a group of texts' instead of one single text if they want to do the task. The learning process can be very complicated and challenging, but very fruitful. Students are pushed to learn not only in class, but also before and after class.

Increasing interaction

Compared to his former teachers, the young ST4 felt that he increased the interaction with the students. He said:

Because of the use of pads, there is a rise in the interaction between teachers and students. For instance, I often upload some exercises before class and ask students to finish them and then we discuss the problems and difficulty ones in class. Also, I tend to design some interactive activities in class instead of giving lectures all the time, especially when introducing students to new knowledge points. Admittedly, in Senior High Three, my teaching still features lecturing now. Guiding students to prepare for *Gaokao* (such as by making revision and practice exercises) is the key in this period of learning and lecturing is likely to save time.

When it comes to the increased interaction, LT2 shared some opinions with ST4, but expressed difference as well. She described an outstanding change in her class:

Traditionally, many teachers preferred to adopt 'whole class teaching' or 'chalk and talk teaching'. But now we make some changes and pay more attention to how students absorb the knowledge by themselves, to give feedbacks, and to involve students in various ways. Students are encouraged and given chances to express themselves and exchange with others in class. To be brief, the traditional teaching featured the teacher's lecturing while the current one focused on interaction. This is also required by the curriculum standards. And most of my colleagues all adopt this new type of instruction.

Integrating knowledge with life and practice

When asked how his teaching was different from that of his former teachers in the senior high school, ST4 said that he made more efforts to 'care about' his students.

He memorized that his former teachers used to do exercises and corrected their homework and then circulated in this way repeatedly. Their teaching was test-centred. But he tried to make a balance. When preparing lessons, he took both the test and the students into account, to enable his students to realize that they are learning something useful. He described the detail as follows:

The subject I teach is unique. If it is taught in the traditional way, teachers tend to ask students to remember, to remember and recite some knowledge points. And then students can get a high mark in the exam as well. Traditionally, teachers focused on teaching what the structures were and asking students to remember them. But as for me, I focus on asking 'Why?'. Why should the structure be in this way?

When talking about one of his teaching plans, ST4 provided two examples that could help explain his value and way of teaching:

…Here I asked my students to think why this structure has a low center of gravity? I encouraged my students to find an item in this structure at home. They were asked to observe it and analyze why it is designed in this way. And then they listed other items with this structure. Another example is that students were inspired to think back how the workers use the scaffolding. What is the structure of scaffolding? Why is the structure designed in that way? If you were the designer, how would you design it? I ask my students to apply what has been taught in class and help design a new scaffolding.

Besides, many exercises we are doing in class are closely related to the real life. Once the topic was about flush toilet, and students became very excited after realizing that they could really master the skills to repair it at home. Another example is that some of them managed to install the Alarm circuit at home after learning the relevant knowledge in class.

You can guide your students, and guide them to think in this way. Students should have the awareness that they are actually preparing for the exams when caring about life. And after getting the knowledge, you can 'feed life back'. Meanwhile, life can bring more knowledge to you.

This is a big change for teachers when it comes to the teaching idea and method. And my way of teaching does not necessarily mean a high mark in the exam. Well. But I still think this change is a good one, which can equip the students for life in the long run. And my way of teaching is in essence cultivating students' way of thinking. This way of thinking is unique in my subject and cannot be trained and improved in the teaching of the other subjects. In turn, students' way of learning can change accordingly and their learning can become more personalized and easier to internalize than before.

According to LT2, one advantage of the Situational Teaching method was that the learning task was embedded in a specific situation. Students were familiar with the situation since it was close to the student's real life. When students tried to finish the task in class, they could make improvements in real life, such as the knowledge, life experience, learning experience. This way of teaching and learning could be very productive. Gradually, teachers would accept it and apply it in practice, if they found that could improve their teaching.

LT1 thought that there were some slight changes concerning the assessment of teaching and learning. For instance, students were encouraged and obtained more opportunities to express themselves. Compared with the traditional teaching, students could receive more encouragement or praise from other students. Though this way of assessment was used only on some occasions, students did benefit from

it and were more motivated. As for the teachers, they were pushed to make reflection actively and thus deepened their understanding of instruction.

Besides, when talking about the impact of the change in the admission methods of universities and colleges (e.g. the multiple admission methods) on the instruction, LT1 introduced a new item called 'Practical Classroom' (*shiyongxing ketang*, 实用性课堂). He added details as follows:

This new way of teaching integrated some real-life scenes with the instruction in class. The teaching and learning activities serve as a rehearsal for students' real life in future. These activities usually combined the interview, chatting or document reading with the teaching tasks in the relevant unit of the textbooks, thus being integrated in the whole system of the language instruction.

5.3.4 Personalized and lifelong learning of students

The changes in the role and features of students changed the participant teachers as well. When designing some optional courses, ST2 said that the courses could benefit students greatly, especially in developing their ability and meeting their personal requirement and interest. For instance, the participant himself ever designed and set up an optional course, which featured students' using some ideas in the subject to improve their learning. According to LT2, the optional courses could make supplement for the compulsory modules of the language teaching curriculum. More importantly, they helped students to develop their interest, which was unlikely to be learned from the textbook. If time permitted and students were

capable enough, LT2 considered it necessary to have optional courses. Courses like the speeches or newspaper reading could help students to make the growth in various aspects, such as improving language proficiency and broadening their horizon.

Besides, there were some changes in the students' learning method. For instance, LT2 discovered an increase in the amount of reading in the new curriculum reform policy. Therefore, this change in fact pushed students to be a more autonomous learner than ever. Besides, students were required to use the language of English instead of just learning for tests. Furthermore, it was enhanced to have the communication and cooperation with other peers. In a word, students were hoped to improve their abilities and get prepared for their future rather than just remember the knowledge taught in class.

SST1 experienced some good changes in designing optional courses, which benefited the students and teachers alike. He explained:

When we applied for the title of the provincial demonstration school of curriculum，the school curriculum became much diversified than before and the teaching of elective courses became much more interesting than before. I could make decision on my teaching. I designed the course and selected what to teach, mainly based on my own interest as well as the required modules or some basic knowledge in politics. The students liked it.

And now, if the optional courses can continue, it will benefit students' learning in the long run. For example, the topic on Territorial Dispute cannot only impart some knowledge of politics but also help educate students.

LT1 thought that the reform was necessary, though some specific procedure and methods remained to be improved. Particularly, students' abilities tended to be improved and their way of learning changed. He added:

One big change in the new curriculum standards is to increase in reading. Whether in the textbook or the test, the increase is dramatic. In some important exams, the amount of reading has risen sharply. And in the textbook, the task of reading tends to require students to read several texts or even the whole book of texts while in the past they just focused on one text at a time. In this way, students' abilities are hoped to improve. Since the way of reading changed, students' way of learning changed when they have to combine different methods of reading, giving up the tradition of using one single method to focus on one single text.

Briefly speaking, big changes could be seen in the textbooks, teaching and learning activities and the forms of instruction. But more importantly, students were given more chances to develop themselves while participating in various learning activities. These chances focused on students' development in the future. Students were inspired to learn the language in order to benefit their future development, so they had to learn it well and then they could use it all their life.

ST4 thought that the latest curriculum reform was like a 'watershed' for the students. Some students felt they were 'liberated'. He explained:

They felt liberated, especially those who have got the high scores in the first series of exams, and most of them gave up the chance of taking the second exams. Finishing the exam means liberation for many top students. And they can spend the 'extra' time suiting their personal academic interest, at their own pace. They can improve the academic performance of other subjects or stay in the school library to learn some advanced knowledge of their favourite courses on their own.

Besides, students are given more choices when it comes to choosing subjects. In the past, students in senior high schools are divided into students of art and science. As for the students of science, our courses were fixed. When hearing the new curriculum policy in about 2014, I was still studying in the university and felt how lucky these students were. If I had had the choice, I would not have chosen chemistry. I told my mum that I would choose physics and biology and could get the highest score, 100 points. Also, I would choose geography. How I like this subject! But I could not choose it in my senior high school. What's more, these students are even given two opportunities to take the English exams! So great! How I wish I could return to the senior high school and start everything again. If I had been a freshman at that time, I would rather have dropped out of the university. …What a great bonus for the students now!"

Besides, ST4 thought that students' personalized needs were the most important when he designed a new elective course. He said, 'If the teacher has a brilliant idea and owns the ability to create a course, that will be useful for the students. If the students can master what I have taught them, they will obtain some skills which can be of benefit in the long run. This kind of courses can help students cultivate some abilities which can be useful all their life. Students' personalized needs can be met in elective courses.'

5.4 Negative aspects of the reforms

Similar to the positive impacts of the reforms on the participant teachers, the negative aspects of reforms changed their TPIs. They made some teachers lose confidence or direction in their teaching, create a sense of frustration, or experience

negative emotions like feeling anxious or burned-out. Inevitably, that led to the change of their perception and practice of this profession.

5.4.1 Blindness or ineffectiveness
Ambiguous directions

SST1 thought that the biggest problem of the latest curriculum reform was that its direction was not explicit enough to guide the teaching practice. He analyzed that the major reason was that the curriculum reform had not finished, so it remained to be seen whether the current reform policy would be put into practice. Teachers were not provided a set of comparatively complete or suitable 'system' which could guide teachers on how to teach new knowledge and make revision. He felt that teachers were just followers, always keeping pace with various changes. The result of this kind of 'blind' changes was likely to sacrifice some students' interest and chances to get ideal further education in the university.

SST1 said that the change of textbooks (at the state or province level) would definitely and continuously push teachers to change. Actually, they had to attend some conference or training concerning the new textbooks. He said:

…some demo classes have been given. And teachers have been studying something about the new curriculum policy and been 'brainwashed'. However, after attending so many trainings and workshops, I still felt puzzled about the standard of a good lesson.

Fake teaching and learning

As for the teaching content, ST1 showed some disagreement with what was supported by the new curriculum reform. For instance, it had been increasingly popular to introduce to some relevant stories about the subject, working as the warming-up section of a period. But she found it almost 'useless' in teaching this subject, though some students seemed to be 'interested or even excited' about the relevant knowledge. Besides, she felt that demo classes in her subject were 'quite different' from the daily teaching and thus in essence some shows. She explained:

It is required that demo classes should and can show the requirements of the curriculum reform policy. Many teachers consider them as 'models' or samples of the latest trends in the curriculum reforms. For instance, there used to be a period when the group discussion is very popular in demo classes. … but is the noisy classroom really effective?… No. They are just some shows. … I seldom used it in my real teaching.

As SST1 memorized, the first time he taught an optional course, he was 'given' some slides concerning how to help students to conduct 'research'. All the students were taught with the same content, the same teaching plans and materials. What most teachers did in this course was merely reading the slides. He felt that students were 'forced' to take the course, and the course was useless for most students.

Passive or slight changes

When answering the question whether the curriculum reform had changed the teacher's role, ST2 stated that the reform (especially the 2011, 2012 and 2014 curriculum reform) pushed some teachers to make some slight changes, but in essence the role of teachers remained the same. When facing the reform, most

teachers tended to be passive, who changed themselves mainly to implement the reform policy.

SST2 stated that students' way of learning did not change greatly and a majority of learning activities remained the same (i.e. having lessons and doing homework). However, with the adoption of pad in the teaching and learning, some slight changes were seen among the students. For example, students knew how to turn in some homework, watch 'micro-lessons', or read the notice delivered through pad.

When asked about how informationization affected the education, LT1 thought that it could influence some details or teachers' working environment, but would not change the core of education. For example, it was useful and convenient in correcting exam paper with the aid of technology. But that was not something fundamental to the teaching and learning.

Difficulties in conducting assessment

As for the change in assessment, LT1 said that there was no significant change in this aspect. The exam remained the key and final form of assessment in senior high school. The summative evaluation, especially the *Gaokao*, could change a student's destiny, so it was the most influential. By contrast, other forms of evaluation had little or no effect on the students.

ST3 mentioned another difficulty in assessment. She admitted that some important concepts and beliefs in the new curriculum standard were difficult to evaluate in *Gaokao*, the most important summative evaluation for most students. For instance, 'Social Responsibility' was one of the most essential ingredient of 'Key Competencies and embodies teachers' responsibility of educating people. However, it was difficult or even impossible to test a student's social responsibility in exams. She put forward her solution to this contradiction: to integrate the idea of Social Responsibility in her teaching without testing it in exam. In her perspective, teachers should not be too 'utilitarian' or teach only for *Gaokao*. She held that it was the teacher's job to integrate the ideas of the new curriculum reform and real teaching, and to improve his/her students' knowledge and abilities which reflected the spirit of the new curriculum.

5.4.2 Anxiety or pressure

ST1 said that many teachers were forced to face curriculum reform, so they had to make reflection by integrating the policy, teaching practice and their own experience or preference. Her reason was that the teacher could control the real teaching. Anyway, that could contribute to teachers' professional development or a sense of growing up. She added that pressure could be found among teachers. What was behind some refusal to the implementation of curriculum reform policy as not that 'simple' or 'random'. 'Laziness' or unwillingness to change were not the most important reasons for teachers to say NO to curriculum reform. Actually, most

decisions that teachers made were the choice based on their careful thinking or experience in practice.

Gaokao

Exams like *Gaokao* remained the most prominent when it comes to student evaluation. If the system of student evaluation was reformed and features diversity, more teaching content would be adopted and thus teachers would be burdened with more pressure. In particular, dramatic changes were discovered among most participants, when the reform of College Entrance Examination and Enrollment was intensified in 2014 (the State Council of People's Republic of China, 2014), indicating *Gaokao*'s impact on the teachers' professional life.

ST3 expressed her anxiety about students' academic performance. She thought that the latest reform in *Gaokao* was 'not as good as the previous ones' and it was more difficult for her students to improve their scores. She stated as follows:

The curriculum reform has not changed the major factors of teachers' professional identity, but the emphasis has been changed. For instance, teachers used to lack enough understanding of some 'Big Concepts' of the subject, which are now emphasized in the new curriculum reform. The teacher had no choice but to study these concepts, so they need to change parts of their subject knowledge.

ST4 mentioned a big problem that some senior teachers had experienced. As they were not good at using new technology, they had to spend much time learning the new skill and repeatedly turned to the technicians or other young teachers for help.

Sometimes, they might even face some embarrassing occasions when their students offered to help them with the technology. Introducing the new technology came with a price. Learning new skills could be of great pressure, especially for some aged teachers. But they had no choice but to deal with their problems, as they had to meet the new requirements of the informationization raised by the school or the new curriculum reform policies.

The pressure caused by the change was also perceived by LT2. She stated:

…teachers are the key to deciding the teaching practice. The school equipped each of us with a pad and strongly recommended that we teachers should start using the new technology. Anyway, it is the teacher that decides to what extent the technology will be used. We should make full use of its advantage and think hard on how to integrate it with our own teaching practice. We should not go to extremes by saying yes or no. We ought to learn it and make everything clear before using it in real teaching. But the process is quite time-consuming, challenging and risky. And all our efforts can be in vain if the technology does no good to the effectiveness of teaching and learning.

Teachers and students had to face many changes. For instance, SST1 sensed this by stating that the teaching content changed greatly in his subject. Great changes had taken place in the schedule of teaching and testing. The influence caused by *Gaokao* was obvious and directly led to some changes in the teacher's professional life.

5.4.3 Increased workload

SST2 said that (due to the 2014 curriculum reform,) great changes could be seen in teachers' workload, which was largely due to the changes of *Gaokao*. She explained:

Now more students in the school chose it (the subject I teach) to be tested in *Gaokao*, but the number of teachers in my subject remained the same as before. Therefore, teachers had to spend more time preparing lessons, correcting homework, thus lacking time to give personalized help to some individual students. Some teachers even spent much less time preparing lessons, since it was really time-consuming to go over all the students' homework, so the quality of teaching and learning was likely to be lowered.

Besides, despite all her hard work, the increase workload led to nothing but the ineffectiveness of her teaching. This assumption has made SST2 felt burnout both physically and psychologically, believing that her effort was of little value. She admitted that great changes had taken place in her attitudes since the new reform was introduced. Briefly speaking, she experienced some change in her attitudes towards the reform. She stated:

At first, I saw some positive attitudes in myself. I knew I have to adapt to the new reform and did make every effort to study the relevant documents, attend many workshops and gave some demo classes. Besides, I made some reflection on some problems I met, trying to integrate what I learned with my teaching practice. However, it turned out to be very ineffective because the output was very poor. How much I gained was not equal to how much I have paid. I devoted so much to work but the results were not what I expected. Therefore, I gave up.

Similarly, ST2 agreed that influential changes could be found in the National College Entrance Exams, or *Gaokao*. The exam tended to have the washback effect, which referred the impact on the teaching and learning. One major change was the pace

of teaching. In the past, the major task in the first and second grades was to lay a solid foundation for the development of students in knowledge and thinking as well as the preparation for *Gaokao*, which fell at the end of Senior High Three. But now the schedule of *Gaokao* has changed, so students were given more chances to sit in the exam. However, it took more time and energy to prepare for exams. Besides, the textbooks of the subject were organized in the forms of 'module' and students were given the right to make different choices of the modules. In this sense, the effectiveness of laying the foundation was reduced to a large extent. In turn, many students lacked the depth of thinking, mainly due to the increase in the course content and scattered knowledge points in different modules. As a result, many students were merely good at 'imitating', a low level of thinking.

When asked about the change of workload, LT1 described some phenomena and tried to analyze the reasons behind them. He analyzed in the dialogue as follows:

I: Is there an increase in the teacher's workload after the introduction of the new curriculum reform?
LT1: Yes, of course. Definitely. For instance, a new series of textbooks will soon be used after the introduction of the new series of curriculum reforms. Now various relevant teaching and research activities have been organized at all levels, on and off campus. Many trainings, demo classes or workshops all focus on how to use the new textbooks in teaching. We teachers had to join in most of them, especially for a group leader like me. Sometimes, I even had to attend two to three meetings within one week.
I: Do teachers look forward to the arrival of the reform.

LT1: Various 'voices'. You know, many teachers have a 'comfort zone' after teaching for a long time. And they do want to return to the situations that they were familiar with. It is inevitable that they have a different voice when facing the new curriculum reform.

I: What kind of different voices?

LT1: As for most values, ideas and concepts (in the curriculum reform), there is no dispute among teachers. But when it comes to some specific methods of instruction, discomfort or even complaint can be found. These uneasy feelings are mainly caused by the change in their nature of work or the sharp increase in teachers' workload.

I: How did teachers implement the reform policy in practice?

LT1: It depends. It depends on your (the teacher's) views and attitudes, which will result in different effects. More often than not, the teaching will be more effective if the teacher adopts a more positive attitude. In essence, this is a requirement for teachers' abilities, including their energy, enthusiasm, time, concentration and pedagogical knowledge, etc. This is an all-round requirement for teachers' abilities. Teachers cannot alter the trend of reform, but can react negatively or positively. Anyway, in this great trend, no one can afford to go against the current.

As for the optional courses, ST3 thought that they were good if teaching time was adequate. Otherwise, these courses could be 'fake' and time-consuming. Teachers were burnout and did not want to spend extra time on these 'useless' courses.

When LT2 explained the reasons why optional courses were difficult to design and implement, increased workload for teachers and students could be seen obviously. She said:

Firstly, it is difficult to collect relevant materials, which need to be rich and diversified. Besides, teachers have to spend abundant time and energy, which is a preconditions to design and implement a new course. However, that is quite difficult. As for the students, they also need to make more efforts than before, since they need enough time to digest what is taught in these courses.

5.4.4 Hazards to students

ST2 stated that there were some changes among students. Students had the right to make choices in learning, such as the subjects which would be tested in *Gaokao*. However, this led to two types of students. Some students had a good understanding of their choices and developed well. On the other hand, others were greatly influenced by other people such as their parents or friends, and were actually forced to make choices. Often, the second group of students made wrong choices and usually changed their choices or the subjects to be tested in *Gaokao*, thus wasting some time and leading to some ineffective learning experience.

LT1 thought that great impacts could be seen in his subject since the 2014 curriculum reform. He listed some major negative effects on the students. Above all, the learning pace was disturbed. Faced with many more exams, many students changed greatly in mindset and mood as well as their learning schedules. The increased test frequency led to students' increased burden and time of preparing for exams. Inevitably, the time of systematic learning was reduced, thus destroying the integrity of learning. In turn, great damage was done to all the subjects that required complete structure of knowledge, including the subject he taught. In this way, the school curriculum as well as most subjects has been affected greatly. The three-year education in the senior high school was forced to focus on exams, which featured the students' making endless preparation for exams and taking exams.

Students had fewer chances to take optional courses, especially those concerning PE or art.

ST3 described the phenomena that some students were more 'demanding' than before. She explained the reasons in detail:

We teachers obviously felt more tired than before. Students also changed. They chose this subject in order to get high marks in *Gaokao* rather than learn the subject due to real interest. Besides, when it comes to models of thinking, they are not like students of science but those of art. So we teachers felt painful. And teaching is becoming increasingly difficult. However, we are still exploring to change our teaching, trying to influence and improve students. We did not change the content of teaching, but the way of teaching as well as some activities in class. Also, more time and energy were spent after class in giving individual tutoring to the students who met difficulties in learning this subject.

ST4 found that some students felt more stressful due to the changes in the new curriculum reform. For instance, the number of exams that most students had to take was doubled. These students preferred a snappy way, disliking the lengthy and boring process of preparing for and sitting in numerous exams. He added:

But, to some extent, it can be considered as a way of 'alleviating academic burdens', since the teaching time has been reduced and the learning content decreased. (Laughter.) we all learned less than before. But it is really a big challenge for students, especially when it comes to the students' learning capability. Things change every year. It depends on the policy. What do they on earth want the students to learn? That is the business of the higher-up authority.

In brief, the curriculum reforms did change some aspects of the TPI in the school, both in positive and negative way. And the changes have influenced the instruction and members of the school, especially the teachers, in belief, attitudes, emotions and practice as well. Like many teachers in other educational systems, the participants in the study experienced growth and dilemma caused by the educational change.

5.5 Prediction of the future curriculum reform

The participants were encouraged to predict the future of the curriculum reform, which could be considered as another way to explore the teachers' beliefs and attitudes towards the curriculum reform and to detect the possibility for the teachers to make change, so this section can be supplementary to the exploration of the TPI in the school as well as the impact of the curriculum reform. All the interviewees agreed on the idea that the curriculum reform would continue or be intensified, but they added various explanations.

SST1 agreed that curriculum reforms would definitely continue, but might meet some difficulties. He also complained that the allowance of the class tutor was too low. ST2 agreed that the reform would definitely continue and some obstacles might appear. He made some further explanation:

It will definitely continue, but may meet some difficulties. Actually, it is not important that Curriculum reform should always be successful. What matters is the fact that we are keeping trying and developing towards the right direction. I hope teachers and students will make improvements without feeling too stressful or exhausted.

ST3 believed that the reform would continue and provided some reasons and suggestions for other teachers:

…as education is to serve society and society is always moving forward and human beings are always developing, so teachers should 'adapt to' the reform, study it and try to identify with it. Besides, I hope that the curriculum reform will be more'Down to earth'(*jie diqi* 接地气). And I believe that teachers' job satisfaction and life quality can be improved by increasing our income.

LT1 thought that teachers should have the proper attitudes towards the new curriculum reforms. According to him, most new curriculum standards had a solid theoretical basis and could reflect the development of the times, which called for the 'adaptation, learning and cognition' of teachers. Therefore, there must be some impact on the individual teacher's career and that impact must be positive.

According to LT2, she suggested that no matter how the curriculum reform would develop, students should always be put in the center. She further explained, 'If the reform is not beneficial to students, adjustments should be made immediately. This is very important! Certainly, the students as well as the teachers should be taken into consideration when the reform policy is made and implemented. Especially, it has to be considered whether they can bear the pressure and risks caused by the reform.'

ST4 was faced with the dilemma in his subject. He said that being a teacher was often confusing and very stressful for him, as it was said that the subject that he taught might be cancelled in *Gaokao*. Otherwise, the future development of his subject should be very promising. Nevertheless, he showed great determination in keeping learning and working hard in the future. He remarked:

… it is necessary and significant for the new generation of teachers. No one knows how will our classroom develop in the future. Personally, I will always have a passion for learning and be happy to learn new skills. Since the new things appear, there must be some advantages. If there is something disappointing, teachers can point it out and correct or improve it. If the new thing can assist our teaching and learning, it can be considered a good one. The key is how we teachers can integrate it, welcome it and apply it in practice.

5.6 Conclusion of chapter

On the basis of the data analyzed in this section, the different impacts that the reforms had on teacher identity were explored. Though participants differed in their belief, attitudes and practice towards the curriculum reform, similarities could be found in some aspects, including their commitment and resilience when facing these educational changes. Positivity could be sensed in their perceptions of the future reform and rational thinking has been given to the development of the curriculum reform, the school reform as well as their own career. Anyway, most participants hoped to increase the effectiveness of the curriculum reform and the welfare of teachers, though expressing in various ways.

Answers to the second research question can show some new versions of TPI in the researched school, which will be discussed with more details in the following Chapter 6. Though teachers experienced various educational changes, their perceptions of the teacher's professional identity largely remained the same. However, teachers' roles and responsibilities did multiply amid curriculum reform, so some new versions of TPI can be found in the participants' perception as follows.

The Defender: In the changeable curriculum reform environment, the participants became a Defender who had a clear mind and insisted on some core values in their professional life. The teaching itself played the most important role in the Defenders' views. Besides, the benefits for students were laid at the core. And all the participants 'defend' the future of curriculum reform as they believed that curriculum reform would definitely continue, though difficulties might appear. Making theoretical and practical attempts or experiments and implementing educational reform can be balanced, if the teachers tried to integrate new policies with their existing TPIs.

The reflective thinker and practitioner: Teachers combined practice and reflection to carry out curriculum innovation. They changed only part of their teaching practice and analyzed the effectiveness of their teaching. Much time and effort had been given to adopt various ways in their daily teaching practice. When facing reform, they equipped themselves with the awareness, the knowledge and

the action to carry out 'experiments' before implementing them properly, which largely depended on the teacher's professional development, especially the training that teachers could receive during curriculum reform.

The designer of curriculum: Teachers' autonomy of curriculum was realized since the introduction of 2002 curriculum reform, which could be clearly seen in teachers' designing the school-based optional courses of the researched school. A combination of gaining rights and bearing 'extra burden' could be found in teachers' joining in the designing of the school curriculum.

The 'chameleon': The teachers 'pretended' or appeared to have changed them in order to meet new requirements raised by curriculum reform, thus adapting to their changeable professional surroundings. The chameleon did try implementing innovations, but what has been experimented during their implementation of curriculum reform proved useless or ineffective to them.

Performer: The teachers tended to divide their classes into two types: 'demo classes' and 'normal classes'. They appeared to implement what is required in curriculum reform documents in demo classes, but insisted on using some traditional teaching methods, as they remained efficient and effective in their opinions.

The 'rebel': These teachers did not change their values and practice or were just forced to make some slight changes. 'Test-centered teaching' remained among them. They complained about the change they had to make in order to adapt to educational reform, thus experiencing some negative emotions and adopting negative behavior in practice.

The applicator of information technology: Abundant support has been given by the researched school to encourage its members to master new skills of technology and to fully and properly apply them in the teaching and learning practice.

Chapter 6:
Discussion and Conclusions

6.1 Introduction

This chapter synthesises the findings from the participants' data. It begins by offering a recapitulation of this thesis, summarising its aims, major findings, and overall conclusions, which functions as a foundation on which to explore the rest of the discussion section. Integrated with some major studies explored in the literature review, the first research question is addressed then: What characterizes the teachers' professional identity (TPI) in the researched school? The focus is on presenting and analysing the factors influencing TPI as well as the main features identified in the participants' data. The analysis is used to construct a model of TPI that could be employed to understand teachers and promote their professional development. This part is followed by the exploration of the role that curriculum reform has played in shaping the TPI in the researched school, thus exploring the second research question: How and why did the TPI evolve in the curriculum reform during the studied period? The next major part outlines how this thesis can make contributions to the literature theoretically and practically. Finally, some limitations will be heighted at the end of the chapter, and the possibility for future research will be proposed along with the inspiration that I obtained during the planning, researching and writing of this thesis.

The major aim of this thesis is to examine how eight teachers perceived their professional identities in a Chinese senior secondary school in Ningbo, and how

their TPI evolved in the curriculum reform. Hopefully, the voices of a group of senior secondary school teachers could be heard, which might also add to the literature concerning teachers in an urban area in China. The thesis attempted to address the following research questions:

(1) What characterizes the teachers' professional identity (TPI) in the researched school?

(2) How and why did the TPI evolve in the curriculum reform during the studied period?

As the aims of the study are essentially exploratory and social in orientation, the research methodology was primarily qualitative. The approach of case study was adopted. It needs to be clarified that the whole school was considered as the case, though the data were collected at the individual level. The Thematic Analysis (TA) approach was employed. The features of the TPI at the school level have been illustrated in the previous sections concerning research results. In the study, a theoretical framework was used to operationalize what TPI should be taken to mean, including factors that might influence this identity. The data dealing with teachers' perceptions of their professional identity could be defined as representations of their understandings of their own professional identity, thus reflecting their personal knowledge of this identity.

Teaching as a career choice

Before exploring the answers to the two major research questions, some factors shaping and reshaping teachers' professional identities were clarified, especially by examining the reasons for becoming a teacher. Data showed that the participant teachers demonstrated a sense of belonging to the profession. They did not see teaching just as a job, but saw themselves as teachers by choice, so they have developed teacher identity (Cross and Ndofirepi, 2015). Their professional identity was greatly based on their previous professional and personal experiences.

Important elements of personal factors are found in teachers' lives outside the school and are linked to family and social roles (Lee et al., 2015). Specifically, teacher's **personality** contributes to the personal factor of TPI. Besides, teachers' **competences** in various aspects of their profession are important characteristics required by the profession. Personal factors also include some **spiritual causes** such as teachers' personal desire and professional dreams or pursuit. Actually, this is closely related to teacher attitude. An attitude refers to 'a tendency to react positively or negatively towards a certain object' (Nel et al., 2011). Attitudes are closely related to one's views, previous experiences and interaction with others. Teachers' attitude can depend on their existing perception and practices of teaching, as well as their motivation or job satisfaction. **Age** is another factor that shapes how teachers construct their identities. It is significant to detect that some senior participants' narratives were characterized by a conservative response to change, whereas the young participants featured certain optimism and a clear sense of

potential for change. Finally, **gender** did have an impact on deciding TPI, but made little difference during curriculum reform. Some features and values were shared among participants of the same gender. For instance, all the female participants indicated that the profession of teachers were good jobs for women, but they also burdened much pressure in their personal life. This obstacle for working women is shared by those in other Asian countries like Japan, but slight differences do exist. For instance, Japanese women teachers tended to quit working after marriage (Amano, 1997) while the women participants in this study remained working as a teacher and struggled to balance married life and professional life.

The influence of social factors can be seen clearly. For instance, **the people around** the participants contributed greatly to the participants' decision to become teachers. Also, some participants felt that the school was the place where they could get along well with colleagues and students, thus leading to the ideal working atmosphere that teachers mostly appreciated.

Besides, **respect from society** also contributes to becoming a teacher, since the participants felt that this profession was highly thought of by many people in society. In essence, this is closely related to **the traditional Chinese culture** of valuing education and respecting teachers. Briefly, the image and importance of teachers has long been recognized. Teachers have been considered as embodiment of knowledge, wisdom and virtue. This value is also exemplified by the fact that

Confucius is respected as China's 'preeminent teacher'. And this idea remains in today's China and thus can be detected in teachers' image in society. For instance, teachers are considered role models for their students.

In addition, other social factors impacted the participants. The **parental support** is a typical one, which helps build up what Lee et al. (2015) discovered within TPIs, i.e. 'a positive sense of agency, resilience, and commitment in many teachers.' And **material causes** are among significant social factors as well. Though the topic of salary was not included in the interview questions, it was mentioned by participants repeatedly. Seemingly, income is an avoidable element that teachers take into consideration when choosing and keeping this profession.

Lastly, the attraction of **the subject** itself did impact the participants' choice of the profession as well as the follow-up professional development. Some of them are fascinated by the knowledge of the subject itself while others are interested in the teaching of the subject.

Qualification and degree

As is often the case in practice, if teachers apply to become senior secondary school teachers, a degree of bachelor is an essential prerequisite for the applicants at this level. And those who have a higher degree seemed to have more confidence and chances of being employed. However, the degree is just a starting point or a career

stepping-stone to the professional life of teachers, which is similar to the Japanese context (Amano, 1997). Other useful qualifications include the 'Teacher Qualification Certificate' (*jiaoshi zige zheng*, 教师资格证). But if a teacher has a master's degree or even PHD, they can be employed first and then need to obtain the necessary certificate **within** the first year after getting the position in the senior secondary school. Fresh graduates seemed comparatively preferred in the job market.

The fact mentioned above concerning the rise of professional standards of teachers is closely related to China's development and the bigger context of globalization since 1990s. From 1993 onward, China's growing economy and political stability have been recognized internationally. And China has realized many dreams in 2001-2002, which required China to open even further to the outside world (Zheng, 2005). In turn, teachers' role and social status changed accordingly.

Responsibilities given by curriculum policy

Teachers are expected to function as school-based curriculum developers/leaders, active implementers of innovative teaching practices, and facilitators of student learning (MOE, 2001). This indicates what frontline teachers should be during curriculum reform, and how they make sense of their role in the implementation of the new curriculum. Also, teachers may carry the weight of the expectations of the stakeholders (e.g. the policy makers and school administrators) in implementing

the curriculum reform faithfully and successfully.

According to Zheng (2015), the concept of 'quality education for each and every student' (MOE, 2001) was promoted by Chinese government in 2001, which is exemplified by launching the National English Curriculum Standards for Nine-Year Compulsory Education and Senior High School Education (the NECS). A paradigm shift can be seen in the NECS: from a traditional teacher-dominated, knowledge-based transmission mode of teaching to a more learner-centred, experience-based, problem-solving mode of teaching. Evidently, shifts in educational orientation are required clearly in the curriculum, though they do not necessarily induce changes in teachers' beliefs and practice.

As was intensively analyzed in the previous sections, some major findings can be presented in the study. The following discussion of the major findings was guided by the two major research questions.

6.2 Characteristics of TPI in the researched school

In answering the first research question, it has to be clarified that TPI here mainly refers to 'repertoires of identity' in the school, since the whole school instead of individual teachers is studied as the case. Although identity is a product of the first-person singular, but it is in communicative spaces like schools that make individuals inside negotiate with each other and construct repertoires of identity. That is to

say, identity emerges as acts of self-identification in this way (Esteban-Guitart, 2016). The focus on the current TPI of the participants demonstrated that the teachers had various responsibilities and roles in the school. Also, their TPIs are influenced by a diversity of factors leading to some inevitable changes. Briefly speaking, the teachers are not only the subject teachers who impart knowledge, but also tutors who take in charge of a specific class. All of the participants have to be lifelong learners who try to improve the professional development. Also, most of them are responsible to administration work in the school. And young teachers tend to be faced with opportunities as well as confusion in their early career.

To facilitate successful development and change of professional identity, teachers' perceptions of three major questions are worth exploring: what teachers are, what they are not and who they would like to be (Ivanova & Skara-MincLne, 2016). By integrating what has been found in the sections of data analysis, the following discussion focuses on how teachers perceived their professional identity. And the data can largely reflect their personal knowledge of this identity, since they can be defined as representations of their understandings of their own professional identity (Atkinson et al., 1987).

The characteristics of the participants' TPI in the school showed similarities with the existing literature. As Hedges (2000) stated, teachers perform four major functions: 'teaching, administration and management, occupational

technician/subject area expert, and student counselor'. Specifically, the functions of teaching and subject area expert are similar to how the participants perceive their roles of subject teachers in the Chinese context. Also, the participants' roles of being tutors share many similarities with what Hedge mentioned about student counselor. Another similarity is that Hedge's belief about administration and management can be found in the participants' explanation about their administration work. Actually, what Hedge discussed about administration work is similar to part of the tutor's work. Some young teacher's work seemed 'irrelevant' to being a teacher in the school. Also, getting professional trainings or attempting to be a Special Rank Teacher can be considered as a teacher' pursuit of being an occupational technician or subject area expert. That is to say, many seemingly irrelevant responsibilities are in fact among teachers' major functions.

Teachers' perceptions of their own professional identity affect how they face educational change, especially when it comes to their efficacy and professional development as well as their ability and willingness to cope with educational change and to implement innovations in their own teaching practice (Beijaard et al, 2000). On the other hand, teachers' professional identities are also reshaped amid curriculum reform.

Based on the analysis of the influence of the curriculum reform on teachers, many aspects of the TPIs have changed in the researched school, such as their belief,

attitudes, and practice. In turn, teachers did change and new elements of TPIs can be found in the researched school, which showed the significant impact of curriculum reform in China.

6.2.1 The transmitter of knowledge

Being a transmitter of knowledge can be well detected in a major reason for becoming a teacher, the 'subject attraction'. The participants' preference in a specific subject tended to originate from the attraction of the knowledge in the subject.

When it comes to teachers' belief and practice, the participants believed that teaching was at the center of their profession and transmitting information was a basic task of teaching. As for the participants' values and approaches to instruction, teaching today has some new meanings, such as to create an adequate learning context, to monitor students' learning, and to help students become active participants in learning.

6.2.2 The cultivator of students

This value of being students' cultivator and focusing on students was dominant among all the participants. The importance of students was often seen as a prominent factor in their decision to become a teacher. Also, some personalities

enabling teachers to get along well with students were considered as 'advantages' for the participants to choose the profession.

The importance of cultivating students was also reflected in the teachers' values. For instance, being student-centered in class was not only an item promoted by the policy-maker, but also a feature of the participants' teaching practice. Besides, most participants believed that cultivating people was more significant than imparting knowledge (or teaching). They held that students could be more successful or extraordinary than their teachers. Teachers were compared to 'gardeners', whose major responsibility is to cultivate various plants, i.e. their students. In practice, teachers, especially tutors, were like students' parents. Teachers helped to deal with their students' questions and problems both in and after school. Besides, the teachers tried their best to help students to grow into talents.

In essence, the rationale for this aspect of TPI was that participants felt that their work could affect the future of their students. Their sense of responsibility toward the students' future was particularly strong in the areas of academic performance and character building. In China, good academic performance was considered a ticket to upward mobility, and good character ensured harmonious social relations in the family and community. These participant teachers were aware of their roles in preparing their students for the good life in future. Thus, there is an added moral

dimension to teachers' work in China. In referring to their students as 'children', the teachers actually take on a parent role in the school setting. That teaching is 'work of conscience', as the participants frequently surmise, thus reflecting the kind of 'mindset that characterized the teaching profession in China' (Lo et al., 2013).

6.2.3 The embodiment of culture and social value

As was explored in the previous literature concerning the change of TPI in the Chinese society, teachers have been highly respected in China, especially when it comes to the culture and values of the society. Teachers were often described as the inheritor or carrier, watchmen and practitioner of culture and social values.

As a country influenced by Confucianism, the educational system in China is highly stable and hierarchical. Establishing an appropriate position in the system is crucial, and gaining acceptance or compliments from school leaders and peers plays a key role in the process of constructing teachers' professional identity. Chinese teachers tended to behave in accordance with one another; and they often hid their objection or express their real emotions publicly. This explained why some teachers did not totally accept the suggestions of curriculum reform. An individual felt comfortable in a group culture only if he/she was accepted by peers and constructs harmonious relationships with others (Lee et al., 2015). Also, teaching according to leaners' differences (*Yin Cai Shi Jiao*, 因材施教) was highly stressed by teachers in the study.

Differences of this kind can be seen in the learners' intelligence, the learners' motivation, learning habit and even the degree of support from their family.

Furthermore, the emphasis on collectivism of society was well detected in teachers' beliefs and practice, featuring their treasuring collective and teamwork. According to the participants, collectivism reflected an important element of the Chinese culture, harmony. In the specific teaching context, harmony included getting along well and happily with others within the team and gaining a sense of militancy and the energy of positivity from the team. The participants described their group members as 'great partners', 'friends' or 'battle companions', who shared common values and felt the 'sense of belonging' to the group and the power and motivation to move forward.

The examination culture remained strong in the teaching practice of the researched site as well as the individual teachers. The dominant role of examinations, especially *Gaokao*, could also be detected in all the participants' quotes. Besides, the results of examinations were taken by the school as a major indicator in the assessment of teachers. The same criteria could be seen among the parents in the assessment of the school as well as its teachers. Such assessment placed great importance on students' learning outcome, which was invariably translated into examination results. The students' examination results of a certain subject

remained a determining indicator of the teacher's performance. Unavoidably, teachers were under great pressure in preparing students for examinations.

Teachers' role of embodying the exam culture could be explained by what Lo et al. (2013) have found, 'As academic success is demonstrated by success in public examinations, …the teachers seem willing to perpetuate a schooling tradition that is bookish…Indeed, preparation for tests, examinations, and academic competitions of all kinds seem to have consumed the energies of teachers and students alike.' Not surprisingly, the teachers felt bewildered when the reform policies brought in some novel ideas and called for changing the deeply-rooted traditional examination culture.

Day and Kington (2008) reported that the influence of school-level factors such as team work, pupil behavior, support from leadership, parental support, and in-school communication are closely related to TPI. The 'school-level culture' has seen a new tendency in the researched school. Teachers, especially young ones, have started to form a kind of 'community' on the Internet. Through various social media or Internet tools, teachers can prepare lessons and communicate with each other though they may be from different schools, even when they are in different cities or countries. Actually, the role of Internet and the application of information technology in education have become increasingly important. Anyway, teachers

are required to master relevant skills, which tends to be an essential part of today's teachers' professional identities.

6.2.4 The developer of professionalism

A teacher's self-growth was detected in the participants' thinking highly of teachers' professional development as well as improving themselves in various aspects of teachers' life. Most participant teachers were good learners. Professional development was repeatedly mentioned in the participants' narrative about training, studying and researching.

As for the necessity of workshops and training, MOE requested that a professional teacher should continue learning modern educational theories and should implement these to improve their instruction. Teachers were expected to reflect on student learning outcomes and improve their teaching. These recommendations influenced teachers' perceptions of the attributes of a professional teacher (Lee et al., 2015).

Though not directly stated, teachers' autonomy could be discerned among the participants. For most Chinese teachers, autonomy refers to a certain degree of control over contents and methods (Lo et al., 2013). As for the teaching content, teachers have the right to add, delete or replace some parts in the textbooks. But they should guarantee that the adjustment is made without missing the essential

concepts in the textbooks or violating the guideline of curriculum policies or *Gaokao*.

All the participants had the right to choose their preferred methods in teaching. This kind of autonomy also allowed teachers to experiment with some initiative approaches to teaching, which was actually advocated by curriculum reform.

Autonomy is closely related to essential components of the participants' professionalism: knowledge, responsibility and authority (Lo et al., 2013). Specifically, the teachers' understanding of professional knowledge seems directly related to the subject matters that they teach. The level of competence of teachers is defined by the depth and richness of subject knowledge. However, skillful application of rich subject knowledge in the pedagogy requires expertise. As for teachers' responsibility, it represents their academic and moral obligations toward their students. It is considered the major responsibility of teachers to enable students to learn and to perform well academically, and to mold them into persons of good character. Teachers' authority among students and colleagues tends to be established through the application of knowledge and skills, and the demonstration of a strong sense of responsibility. In turn, teachers' autonomy grows in concert with authority, especially when formal positions of authority are secured.

6.2.5 What teachers are not

Financial gains were not the primary motivation for the teachers, but on the other hand, they believed that teachers should not be low-paid. Some participants

complained about the low salary of teachers, especially when compared with what teachers had sacrificed.

According to the participants' narratives, teachers should not ignore students' needs or lack the communication with the students. Also, teachers were not those who hardly encouraged students. In essence, these ideas are consistent with the teachers' thinking highly of students' role in their perception and practice of teaching.

Teachers should not be those who keep rigid or undeveloped. They have to keep developing their professionalism, face new situations in society, and teach new groups of students. They need to have an 'open' mind and keep learning new knowledge in practice. This can be well illustrated when teachers meet some educational changes like curriculum reform.

If teachers were given too many tasks that were irrelevant to teaching or education or spend too much time on these tasks, they were likely to feel exhausted both physically and psychologically. What is worse, teachers often felt they were 'nobody' in the workplace. According to the data of the participants, feeling inferior was quite common in such situations. However, it was beyond my expectation that these 'dispensable' tasks could be very rewarding, as these participants gained many opportunities and much valuable experience.

6.2.6 Who teachers aspire to be

Data about the participants' perception about good teachers and Special Rank Teachers can reflect who the participants would like to be. Characteristics like kindness, sense of responsibility, aspiration, were emphasized by the participants. The data indicated that being a good person was considered the precondition of being a good teacher. In particular, a teacher's good morals tended to be closely related to their devotion to teaching as well as supporting the students.

Professional qualities and the ability to do research were listed as two features of good teachers. Also, the dedication to work and competence in teaching was perceived as the base of good teachers. Participants' understanding of good teachers was also expressed in a more specific way: to teach each and every of his/her lessons in a marvelous way, thus teaching students life lesson and helping students to keep up a good state of mind.

Being a seeker of satisfaction was interpreted by participants in various aspects of their profession. To satisfy themselves as well as others (e.g. parents) was attached great importance. Also, to have a sense of safety was another form of satisfaction. Job satisfaction can also be reflected in 'freedom', such as deciding how to teach, though they cannot decide what to teach or who to teach. Furthermore, they hoped to achieve 'diversity' or overall development of teachers,

such as designing optional courses that were irrelevant to the subject they teach, thus contributing to the happiness or interest of being teachers.

Teachers are independent professionals. Conceptualising themselves as representatives of teacher's profession leads to awareness and clarifying professional goals and ambitions. The roles of teachers today are diversified and complex. Teachers' perceptions of their major responsibilities reflect their values about being a teacher as well as their understanding of what a teacher should do. Briefly, some fundamental roles can be categorized, such as 'projecting, management and organization of the learning activities, psycho-educational advising, class management, proper communication with the students, parents and work peers, life-long learning programmes, active participation in perfecting the educational process and school innovations, etc.' As is inspired by Voinea and Palasan (2013), the prototype of the professional teacher can be seen among the participants: a role-model, a technician, a practitioner, a social actor, a person who is interested in and aware of his/her own personal development.

Apparently, when conducting the above roles, the participant teachers shared some beliefs and attitudes which were universal among teachers of different countries or cultures while others were unique in the Chinese context. The focus on the current TPI of the participants showed that the teachers had various responsibilities and roles in the school, such as the subject teachers who impart knowledge, tutors who

take in charge of a specific class, lifelong learners who try to improve the professional development, and those sharing administration work in the school.

6.3 New versions of TPI

Answers to the second research question helped discover some new versions of TPI in the researched school. The findings of this study were consistent with the existing idea about TPI. Teachers were not simply 'static types', but rather 'complex individuals' who mobilised a range of often competing identities in order to negotiate the construction of identity across different contexts within the professional landscape of the school (Tran & Nguyen, 2014, 2015; Poole, 2019). It should be highlighted that this thesis explored the voices and values of a group of senior secondary teachers who have different experiences and emotions in curriculum reform in China. Future research could explore different groups of teachers in similar contexts in attempts to create a typology of teachers facing educational change to update the typology created by previous researchers for TPIs amid curriculum reform in senior secondary schools.

In the current study, features of Chinese teachers' professional identities were found, and some of them were unique in the senior secondary school in an urban area in East China, thus filling the 'gap' in literature mentioned in the previous chapters. Specifically, characteristics of the TPI as well as the relevant change caused by China's curriculum reform were explored and listed. Besides, similarities

and differences were found in the TPI in China and other countries and cultures. Though teachers experienced various educational changes, their perceptions of the teacher's professional identity largely remained the same. But teachers' roles and responsibilities did multiply amid curriculum reform. Some new versions of TPI were found in the participants' perception as follows.

6.3.1 The Defender

In the changeable curriculum reform environment, the participants became a Defender who has a clear mind and insists on some core values in their professional life.

Above all, the **teaching** itself plays the most important role in the Defenders' views. Pursuing efficiency and effectiveness of teaching keeps dominant in the participants' perception of being good teachers. Besides, the benefits for **students** were laid at the core and mentioned the most frequently when the participants discussed about what teachers should not ignore in education reform.

It is worth pointing out that all the participants 'defended' **the future of curriculum reform** as each and every of them believed that curriculum reform would definitely continue though difficulties might appear. And they autonomously provided some suggestions on how to meet the change in the future of curriculum reform. Commitment and resilience could be clearly felt among all the participants

in this researched site.

In brief, defending their key values concerning their profession, teaching and the students is a major focus of the teachers' professional identities in curriculum reform. Making theoretical and practical attempts or experiments and implementing educational reform can be balanced, if the teachers tried to integrate new policies with their existing TPIs.

6.3.2 The reflective thinker and practitioner

According to the participants, teachers should be those who can combine practice and reflection to carry out curriculum innovation. None of the participants blindly accepted the reform. Instead, they changed only part of their teaching practice and analyzed the effectiveness. In this way, with abundant reflection first, they then decided which reform policies or measures to incorporate into their existing teaching values and practice and also to what extent they would be implemented.

That is to say, teachers facing reform need to equip themselves with the awareness, the knowledge and the action to carry out 'experiments'. This can largely depend on the teacher's professional development, especially the training that teachers can receive during curriculum reform. In turn, professional development will be promoted and teachers' abilities can be fostered. Professional development proved essential and rewarding in educational changes, as was agreed by all the

participants. To study the new curriculum reform standard and then do some research was believed to be useful for teachers' adapting to the new trends in reform.

To enable themselves to be a reflective thinker, they tended to adopt various ways in daily teaching practice. More time and effort had been given by teachers to have 'daily workshops' with colleagues in the teachers' office since the reform was introduced. And when it comes to making *Gaokao* identical with curriculum reform, the teachers tended to combine the 'Excessive Assignments Tactic'(*tihai zhanshu*, 题海战术) with the values and beliefs of the New Curriculum Standards. The inspiration here is that since gaps can be found between the new curriculum standards and *Gaokao*, teachers need to base on their own existing knowledge and analyse the new policies and measures, and then decide what and how to teach in class.

Teachers should know what to ignore or even give up in their real teaching. In their view, giving up something and meeting the real needs is more difficult than blindly accepted everything required by reform policies. Anyway, the efforts were worthwhile since the teachers did use their wisdom and experience to experiment with new reform policies before implementing them properly.

6.3.3 The designer of curriculum

Teachers' autonomy of curriculum can be realized since the introduction of 2002 curriculum reform, mainly because part of curriculum should and can be designed by teachers. This can be well exemplified in the optional courses of the researched school. Teachers' abilities to design curriculum were pushed to improve. Besides, teachers have sensed the necessity to improve their research ability when realizing the autonomy of curriculum. Anyway, these abilities show great diversity among teachers. Designing the school-based optional courses did improve teachers' professionalism, mainly because teachers had to 'redefine' themselves. Admittedly, combination of gaining rights and bearing 'extra burden' can be found in teachers' joining in the designing of the school curriculum.

Curriculum designing also influenced the change in teaching methods or approaches. Choosing between direct teaching and initiative approaches often confused teachers in curriculum reform. Since the initiative learner-centred approach to teaching does not necessarily mean the higher academic performance than the traditional direct teaching, participants tended to choose the conservative attitudes and remained basing the teaching on their own values and experience instead of following everything proposed by the reform. Or they just changed part of their teaching to adopt the initiative way or start experimenting with the new approach.

6.3.4 The 'chameleon'

A chameleon, originally defined as a small lizard which changes colours to suit its surroundings and avoid dangers or being noticed, is also compared to the person who changes his behaviour or opinions to suit situation (Hornby, 1997). Similarly, participants admitted that they as well as their colleagues shared some characteristics with chameleons. That is to say, although few changes had been made in their values or teaching practice, many teachers 'pretended' or appeared to have changed them in order to meet new requirements raised by curriculum reform, thus adapting to their changeable professional surroundings.

6.3.5 Performer

'Performative' in demo classes was repeatedly mentioned by the participants. In this respect, the participants tended to divide their classes into two types: 'demo classes' and 'normal classes'. According to the participants, almost all the teachers appeared to implement what is required in curriculum reform documents in demo classes, especially in conferences or when some experts from outside made inspections of the school's curricula. However, the situation is quite the opposite in daily teaching. Many teachers insisted on using some traditional teaching methods in 'normal classes', as they believe that these methods were comparatively efficient and effective.

The tension caused by curriculum reform and examination culture was obvious and influential. Teachers tended to design some interactive activities when introducing

new knowledge points in Senior High One and Two, and then lecturing became common in preparing students for *Gaokao* in Senior High Three, mainly to save time. In most situations, the deciding factor of teaching remains the significant exams like *Gaokao*.

In essence, the 'performative' of teachers lies in what Lee et al. (2015) have found: they do not totally agree with the requirements and suggestions of curriculum reform, but need to 'perform' and exhibit practices that are in line with the reform. Anyway, the Chameleon aspect of TPIs is understandable and encouraged teachers to make necessary attempts and efforts during curriculum reform instead of totally avoiding making changes.

6.3.6 The 'rebel'

Some 'passive teachers' did not change their values and practice. Others were just forced to make some slight changes. These teachers' refusal to accept curriculum reform was largely due to pressure from *Gaokao*. Although the students' interest and benefits were put at the core of teachers' values and the student-centered teaching philosophy was emphasized by reform policies, but in practice, 'test-centered teaching' remained among many teachers.

The increased workload was directly stated and the hazards to students were found by most participants. According to Lee et al. (2015), frontline teachers considered

problems of student behavior and workload as negative factors that worsen their 'vulnerability'. This explained why a large number of teachers complained about the change they had to make in order to adapt to educational reform, thus experiencing some negative emotions and adopting negative behavior in practice.

According to Zheng (2015), whether these professed beliefs were beliefs underpinning the teachers' practice needed to be examined by relating to their classroom practice. The rebel featured the refusal to adopting curriculum reform in practice. The existing literature indicated that different areas of TPI were interrelated with one another. Some connections were consistent and positive. On the other hand, two inconsistent beliefs did co-exist. As participants found within themselves and their colleagues, sometimes they supported some new items or values required by curriculum reform. But in reality, they just professed explicitly these beliefs, which were not directly related to their practice.

As a new version of TPI, the teacher's role of 'rebel' appears to share some features with those of the 'chameleon', but actually the values behind differ greatly. The rebel does not agree with the requirements given by curriculum reform so that theses teachers may refuse to take action in practice. However, the chameleon does try implementing innovations. The refusal to reform policies actually results from what has been experimented or the trial that they made during the implementation of curriculum reform.

6.3.7 The applicator of information technology

Though the participants did not describe themselves as slavish followers of information technology, the relevant change was inevitable. The rationale is that requirements have been stated clearly in policies and official documents concerning the informationization of education. At the school level, abundant support has been given to encourage its members to master new skills of technology and to fully and properly apply them in the teaching and learning practice. All the participants were clearly informed of the school's determination in this aspect. But it is inevitable that difference in attitudes and abilities could be seen among different participant teachers.

6.4 Contribution of the study

6.4.1 Contribution to the literature

By comparing the findings provided in Chapter 4 and 5 with those in the literature, the contribution of the current research to knowledge of TPIs and educational reforms will be strengthened. Consistency was detected between the TPIs of the current studies and those in the previous works explored in the literature review chapter. However, some characteristics of TPIs were unique to the participant teachers in the researched school, showing some slight differences from their counterparts in the Chinese and other countries' educational systems.

6.4.1.1 Consistency

The findings of this study could add to the literature concerning identity, since they proved the features of identity such as being internalized, social, multiple, and strategic. Also, the current research could be seen as a good example to illustrate identity change, an active socio-psychological process of meaning negotiation between the individual and the surrounding sociocultural contexts (Xu, 2013), particularly the curriculum reform.

Results of the current study were consistent with earlier research concerning TPI, especially in the context of curriculum reform. Key features of TPI were explored in the senior secondary school. It was well exemplified in the Chinese context that TPI was an ongoing process of integration, an ever-changing process of interaction, and an evolving process of interpretation.

Compared with the TPI transformation in overseas studies, the current study demonstrated many similarities. Similar to their counterparts in the UK (Silcock, 1990), professional dilemmas were experienced in the curriculum reform by the eight Chinese teachers as well. Like the Australian context (Gerrard & Farrell, 2014), the importance of curriculum was emphasized in the participant teacher's professional life, with many policies and teaching and researching activities focusing on the educational reform. As the implementers of curricula, these

teachers were required to interpret and adapt to curriculum reform and play a central role.

Educational reforms produced negative emotions among these participant teachers, which had been experienced by many teachers in other countries (Ball, 2003). Like many European teachers (Day et al., 2007), some negative feelings, like stress, fatigue or confusion, were detected since the adoption of reform. However, not all of the participants' emotions were as strong as the teachers in other contexts. Inspired by Jansen (2001), negative feelings tended to be caused by a gap between policy makers and classroom practitioners. If the images of teachers advocated in curriculum documents were different from a specific teacher's own views of him/herself as a professional, the reform would be difficult to implement in practice and the teacher might easily experience hopelessness or helplessness (Berg and Schulze, 2014).

In a study of South African educational reforms, three key strategies were suggested for teachers to cope with curriculum reforms (Berg and Schulze, 2014, p. 61): lifelong learning through reflection; lifelong learning from others; and replacing previous practices with innovative ways of teaching. For instance, lifelong learning could be well detected among the participants, though they adopted various ways to develop their professionalism. This also supported Day's (1999) finding that teachers' professional development never stopped. During the

curriculum reform, the participants interpreted and reinterpreted themselves as teachers, and the shifts in their mind changed these teachers' decisions or behavior, thus making their professionalism possible. Besides, most participants made some trials and kept improving their teaching in the implementation of reforms. Also, all participants felt that the curriculum reform would continue in the future, thus showing some optimism rather than heavy negativity.

Inspired by the analytical conceptual framework that is based on the typical types of Chinese teachers (Lee & Yin, 2011; Lee et al., 2015) and dilemmas (Windschitl, 2002), the participants in this study shared some similar experiences and emotions with their Chinese counterparts in the previous research. Specifically, they shared feelings (e.g., painful, passive, and confused) with the contradictory performers and the drifting followers. Several participants shared similar changes of emotions with the active explorer and the losing heart accommodator: gradually lost initial passion and faced some confusion later in the implementation of curriculum reform. In addition, it was inspiring to find both happiness and exhaustion in the data relevant to LT1 and ST3: the two group leaders in the researched school. This kind of mixed feelings were previously discovered among the reform leaders mentioned in Lee et al.'s research (2015). Conducting and leading innovative methods of instruction (e.g., organizing some demo classes and researching activities) created a sense of achievement among the two participants while their fatigue largely came from extra workload or stress caused by an increasing number of meetings and

trainings that they had to attend or organize. When they inspected by the authority such as outside inspectors or school administrators, some participants' performance was similar to those of the contradictory performer and the cynical performer. These participants tended to 'perform' practices in accordance with curriculum reform but did not completely agree with the requirements of the reform.

As for the reasons behind teachers' dilemmas amid curriculum reform, Windschitl (2002) listed four major types: conceptual dilemmas, pedagogical dilemmas, cultural dilemmas and political dilemmas. The participants such as SST2 met pedagogical dilemmas when adopting some complex approach in order to design curriculum or create learning experiences and then lost initial passion in educational change. This kind of dilemmas had been experienced by Lee and Yin's losing heart accommodators and Lee et al.'s active explorers. The participants were faced with some cultural dilemmas as well, which tended to appear when the classroom roles and expectations were changed by educational reforms. Like the losing heart accommodators, the participants often felt confused about how to define a good teacher. The drifting followers' passive understanding of teachers' role in reform was shared by some participants in this study as well.

6.4.1.2 A new model

However, distinctiveness did exist in the researched school, making its TPI different from those of other contexts. By synthesizing the major findings in the previous

sections, the difference in the impacts of curriculum reform on TPI will be explored

between the current research with existing literature. Then a model of TPIs in the

researched site will be made, including some new elements arising in curriculum

reform (See Figure 6.1). How a teacher changed in the curriculum reform can be

detected. A high degree of stability along with some slight changes was seen, since

many factors remained comparatively stable within teachers even when there were

some education changes. Anyway, several other factors changed greatly. It has to

be pointed out that teachers differed greatly when it comes to their response to

curriculum reform.
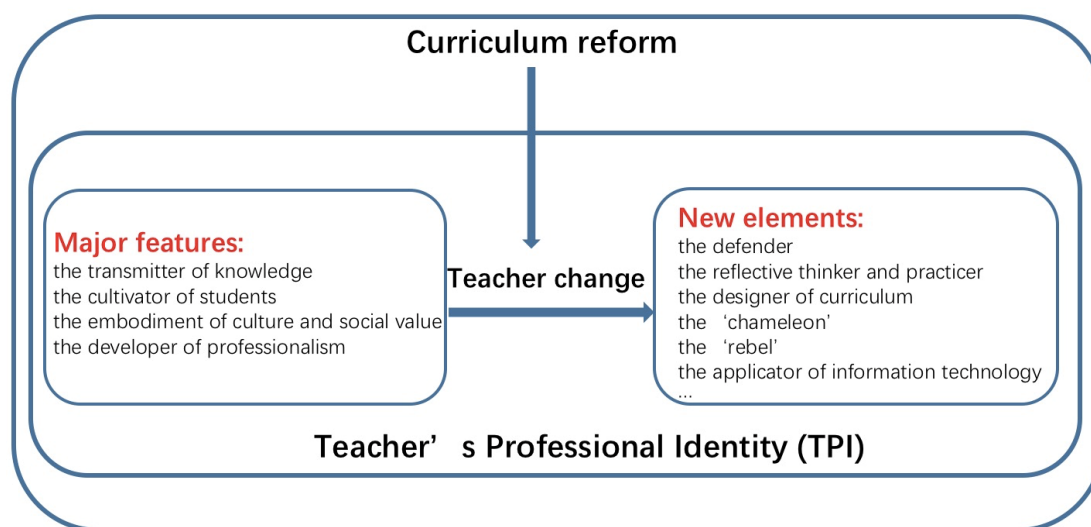
Figure 6.1 A new model of TPI in the researched school

This model shows a big picture of the teachers' professional identities in the

researched school as well as the impacts of curriculum reform on the TPI. The

changes of TPI can be seen as persuasive evidence of the fact that TPI is an ongoing

process of interpretation and re-interpretation of teaching experiences (Lee et al., 2015). And the reform promoted this process.

Another implication is that the major features of identities remained stable and reflected the plurality of identity, as is inspired by Lee et al. (2015). Specifically, teachers were perceived as the transmitter of the subject that they teach, the cultivator of students who often work as managers of classroom process or monitors of their students' learning, the embodiment of culture and social value, and the developer of professionalism who should become lifelong learners. The influence of curriculum reform can lead to teacher change, and in turn bring in some new elements to the existing TPI in the researched site. New versions of TPI were seen, such as the defender, the designer of curriculum, the 'chameleon' and the applicator of information technology.

Plurality of identity actually reflects its multiplicity, which indicates the existence of 'sub-identities' (Mishler, 1999). Accordingly, TPI is a unity which is based on sub-identities interacting with each other and the environment (i.e. the curriculum reform). Sub-identities can include the actual identity, indicating who the teacher is, the ideal identities reflecting the hope and goals, the norm one reveals what kind of teacher one should be (Ivanova and Skara-MincLne, 2016).

The model also indicates a complex process of the identity construction, which is multileveled in nature, involving both textual, contextual, as well as micro and macro-structures, according to Vygosky's dialectical distinction of the self and environment. Contextual factors like curriculum reform can reshape the participants' TPIs in various aspects. Teachers' knowledge and beliefs, value, efficacy, commitment, emotions are among key elements making up the teacher's professional identity (Hong, 2010), and they are often contested and changed (Zembylas, 2003), especially in the context of reforms (Lee and Yin, 2011).

Accordingly, the complexity and dynamics of teachers' perception of professional identity are partly due to their constantly changeable understanding of teachers' roles (i.e. what role teachers feel that they have to play). This can help explain why new elements of TPI appear when curriculum reform is adopted.

Moreover, exploring how reform mediated the TPI can add to the theory of **identity change**. Identity change refers to an active socio-psychological process of meaning negotiation between the individual and the surrounding sociocultural contexts. Or as Beijaard et al. (2004, p.113) defined, it involves a process of arguing and then redefining the identity that is influenced by their settings. Identity change can be influenced by various factors, which can be categorized into two general types: contextual factors (e.g. work setting, policies and cultural background) and internal factors (e.g. motivation, agency, and interactions or conflicts between the

individual's multiple sub-identities) (Xu, 2013). Reforms not only affect what people do, but also change who they are (Ball, 2003). As is indicated in the model, various new versions of TPI have been produced due to the curriculum reform.

As a typical contextual factor, curriculum reform is required by policies to be implemented in the researched site. By studying the participants' understanding of their roles and responsibilities in the new curriculum context, it can be inferred that the educational changes since 2001 have led to some great impacts in practice. Anyway, other contextual factors like the work setting or cultural background have not seen big changes during the researched period, so curriculum reform played the key role. Also, it ought to be pointed out that the contextual factor of curriculum reform did not only work on its own, but also functioned with the internal factors such as teachers' motivation or agency. In this way, the TPIs have been reshaped under the joint efforts made by the two groups of factors. As teachers' perceptions of their own professional identity affect their efficacy and professional development as well as their ability and willingness to cope with educational change and to implement innovations in their own teaching practice (Beijaard et al., 2000), different responses could be seen within and across teachers.

6.4.2 Contribution to Practice

I did not intend to evaluate the impact of curriculum reform, but try to explore it, hoping to provide implication to formulate and refine a version of the advice on

how to understand and develop teachers instead of just implementing reform policies in a school like the researched one.

One significance of this thesis for practice is deepening the understanding of the teachers in the researched senior secondary school. The implication can be made from the exploration of the reason why the teachers chose the profession, their perception of being a teacher, their understanding of good teachers and SRTs. As the whole school is considered as the case, data concerning the teachers' beliefs and behaviours were explored and then categorised, and some characteristics shared by teachers in the same school have been detected as well.

More importantly, much inspiration can be obtained in studying the teachers' professional identities that were reshaped when they faced and adapted to curriculum reform. Educational change has become a norm in the Chinese educational system. Knowing to what extend the Chinese teachers have interpreted and implemented the curriculum reform is essential for the individual teachers themselves and the school policy-makers alike, since teachers' professional identities did make a difference in their practical teaching, i.e., the implementation of curriculum reform policies in practice.

Teachers need to do many varied things that are difficult to quantify (Tan, Chang and Teng, 2015), such as to teach the child, deliver the curriculum, understand the

national policies, work with parents to help them understand their child as well as school, and design innovative practices to suit the ever-changing social landscape. Therefore, teachers need to stay current in their practices and to constantly update and upgrade themselves.

The core of the professional development of teachers is about teachers learning, learning how to learn, and transforming their knowledge into practice to help with students' growth (Avalos, 2011). As for specific activities, teacher professional development includes two major categories of experiences: formal and informal experiences. The former features attending workshops, participating in professional meetings, and mentoring while the latter reading professional publications, watching television documentaries related to an academic discipline (Mahmoudia and Özkana, 2015).

The study can help understand how to develop the teachers' professionalism in practice, by studying the characteristics of the TPI and exploring how they were shaped and later reshaped in curriculum reform. Teachers' professional development never stops (Day, 1999). The rationale is that during the process of interpreting and reinterpreting themselves as teachers, the shifts in their mind can change teachers' decisions or behavior, thus making the professionalism possible.

School- and district-level factors are intensively connected to the formulation of teachers' professional identity. Several factors provide room and opportunity for teachers to obtain an in-depth knowledge of the curriculum, which indirectly affects the formulation of teachers' professional identity. School-level reform activities and those organised by the Educational Bureau at the district are one of these factors, which are the positive support from the district and school. These activities, including teaching competitions and visits to other reform model schools, stimulated teachers to design or conduct teaching in a flexible and innovative manners (Lee et al., 2015). The researched school usually encouraged and guided its young teachers to participate in this kind of activities. As for the subject panels or group leaders, they were usually appointed by the school and also expected to perform as teacher leaders in curriculum reform, thus contributing to the 'construction of a professional learning community in schools' (Lee et al., 2015).

The capacity to reflect is very important for teachers because it can help enhance professional growth of the career (Voinea and Palasan, 2014). Three participants, LT1, ST1 and ST3, stated that the interviews inspired them to reflect on their own teaching as well as their professional life. Actually, I did not ask them to make comments on interviews. These participants offered these ideas automatically.

To ensure successful experiences, positive professional image is a necessity (Ivanova & Skara-MincLne, 2016). Hopefully, positive influence of curriculum

reform help to facilitate the development of teacher's positive image. According to the data from the participants, many teachers responded to curriculum reform positively by increasing their awareness and knowledge and then integrating them into their values and practice.

However, trainings and workshops concerning new policies required by curriculum reform were considered not adequate enough. The major problem lay in the difficulty that teachers had in integrating these theories with teaching practice. Experts were considered to be merely expert in theory, but incapable of resolving practical problems.

Admittedly, the impact of reform varied from person to person. But if teachers could make proper change, much of the response to curriculum reform did improve their teaching practice and developed their professionalism, or at least increased the teacher's reflection. In this way, the positive influence of curriculum reform on teachers facilitated the teaching as well as the teachers themselves to make progress.

As was mentioned above, good teachers are essential for educational changes to take place. It is the teaching staff, instead of a facility, textbook, or computer program that is considered as the 'primary educational tool', which helps the nation achieve the educational goal, such as to raise the level of prosperity of citizens and

society (Hedges, 2000). There must be teachers, and those teachers must be effective, which makes it possible to help the nation achieve this educational goal. Studying the TPI provides implication about how to understand teachers as well as their work and life, thus promisingly promoting teachers' effectiveness, especially when they are faced with curriculum reform.

Cultivating teachers' curriculum awareness will be a prerequisite if the reform policy is carried out. Without the motivation to make change, a teacher will be unwilling to learn about the relevant policies or documents, not to mention the implementation in practice. Without the knowledge of curriculum reform or strategies of facing educational change, teachers can lack the skills and confidence to face changes.

Besides, it is significant for policy-makers of various levels to provide suggestions as well as abstract theories for teachers on how to implement curriculum reform in their teaching practice. This study indicates that teachers in senior secondary schools tend to prefer comparatively practical advice. For instance, what this group of teachers wanted to learn most was not just the lectures introducing some 'important documents', but something practical such as demo classes on how to adopt innovative way of teaching in class. They were interested in whether and how curriculum reform could be implemented, rather than why curriculum reform was inevitable or what was written in the policy documents.

6.5 Overview of the study

This study examined teachers' professional identity (TPI) in a senior secondary school in Ningbo, China. Globally, curriculum change has increasingly impacted the development of TPI in various educational systems. China's secondary schools were no exception. This qualitative case study investigated the lived experience of a TPI practice. Semi-structured interviews were utilized to examine teachers' perceptions of the reflective TPI experience in their school and what adaptation they had made when facing curriculum reforms. The major findings indicated that a positive attitude towards the future of curriculum reform could be seen and artistry in their teaching practice was discovered among all the participant teachers. The participant teachers showed discretion in response to their students' level and interests in implementing the curriculum reform at the classroom level. The professional identity of the school teachers evolved in curriculum reform and could empower teachers to use creativity, artistry, knowledge of the subject and related pedagogy, and knowledge of their students. This case study thus strived to contribute previous research on TPI in China, especially those related to the curriculum reform.

6.6 Limitations of the study

Limitations could be addressed in future research. Methodologically, the limitations were due to the selection of qualitative research, which tends to work with limited

number of participants to achieve great depth. Specifically, the sample of the current study was relatively small (eight participants), and all of them worked in the same school. Also, the interview was the main instrument for data collection. The major function of questionnaires was to prepare the participants well for the following interviews. Though questionnaires were used at the beginning of the study, the data were not analyzed in detail. The main function of questionnaires was to produce a big picture of TPI in the whole school and, more practically, prepare the participants for the follow-up interviews.

Therefore, although this study is promising to better understand the professional lives of the Chinese teachers in secondary education, the findings from these participants' narratives were not intended to be generalizable to the wider population of secondary school teachers. Their stories, experiences, values, and perceptions were uniquely their own. Since it is a case study, most findings were just applicable for the specific researched site. Though using a wide range of samples, the study did use the most typical or representatives of the teachers in the case. Anyway, that could not reflect every detail of the researched school.

Nevertheless, these limitations were unavoidable because the major research questions called for greater depth and verisimilitude of data, which could be well achieved by adopting interviews. Therefore, interviews were suitable in the current research, as they helped explore the reasons for the shaping and reshaping of TPI,

especially in the context of curriculum reform. In the interview context, participants can well provide their perceptions and practice concerning the TPI.

Admittedly, my own researcher bias and positionality could lead to some limitations. For instance, as I was an insider, some thoughts might have been hidden by the participants, especially at the early stage of the study. To address this problem, I had repeatedly emphasized some details concerning research ethics, such as the security of data and their rights to withdraw from the survey at any time. Also, a closer connection with the participants was achieved by asking them to finish the questionnaire before the interview. Moreover, it was rewarding to design some interview questions which could relax these teachers and offer them a sense of security, enabling them to express themselves freely and liberally. Typical questions of this kind were those related to their students and teaching practice. However, a typical advantage of being an insider was that I could obtain some comparatively real data and a deep understanding of the participants, since we were familiar with each other.

6.7 Future research

Despite the limitations, this study opens up avenues for further research. Given the analysis mentioned above, a larger sample size could be utilized in future research. One possible way is to interview more participants in the same context, or to adopt the questionnaire among most teachers in the school. Besides, more

researched sites or schools can be included. In addition, supplementary forms of data collection can be tried. For instance, introducing the method of classroom observation promises to detect how teachers construct their identities in practice, which might be inconsistent to their perceptions explored in interview data. In this way, data can be enriched by obtaining more sources of data. Triangulation supported by classroom observation can further increase the trustworthiness of the research.

When it comes to the extension of the current study, relevant fields like professionalism or teachers' training can be good choices. For instance, TPI of a certain subject, rather than the whole school, can be focused. So some inspiration is likely to be obtained by the teachers of a specific subject. That will then help improve their professional development when these frontline teachers have a deeper understanding of teachers' role and responsibilities, including those required by curriculum reform policies. Besides, by exploring the relation between TPI and teachers' professional development, some content and methods can be discovered to cater to the needs of teacher training in the Chinese context. In particular, relevant research can also indicate how teachers should react to educational change, especially those concerning educational reforms at the secondary school level.

In brief, this study attempts to provide some inspiration, possibly affecting the ideas or action in the Chinese educational context. Particularly, policy-makers can get inspiration, because the formation of educational policies and the implementation strategies should take into account the relationship between changing contexts and the changing professional identities of teachers (Lee et al., 2015). Also, the practitioners in the secondary schools and those who are interested in the professionalism of teachers can get insights from the findings of this study.

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Appendices

Appendix 1: The questionnaires

Categories	Specific questions
Basic Information	Participants were asked to finish the following multiple-choice questions. 1. What's your gender? 2. How long have you been a teacher? 3. What subject(s) do you teach? 4. What prior teacher education have your received? 5. Which group(s) of students do you teach? 6.Besides being a subject teacher, what other responsibilities do you have?

Teachers' Perception of TPIs	7. Participants were asked to award a total of 100 points to the three aspects of your professional identity.
	
	    Aspects Points
	    Subject matter expertise _____ / 100 points
	    Didactical expertise _____ / 100 points
	    Pedagogical expertise _____/ 100 points
	     (*a subject matter expert* is a teacher who bases his/her profession on subject matter knowledge and skills;
	     a didactical expert is a teacher who bases his/her profession on knowledge and skills regarding the planning, execution, and evaluation of teaching and learning processes;
	     a pedagogical expert is a teacher who bases his/her profession on knowledge and skills to support students' social, emotional, and moral development.)

	Participants were asked to read the statements and choose one from the five items as follows: A. Strongly disagree

	B. Disagree
	C. Neither agree nor disagree
	D. Agree
	E. Strongly agree
	8. The subject I studied determined my decision to become a teacher.
	9. In my lessons, I pay a lot of attention to varied learning activities.
	10. As a teacher, I serve as a model for the way students mix with each other.
	11. Cooperation with colleagues is important for my work as a teacher.
	12. The importance of experience is that I have developed a personal teaching style.
	13. My way of teaching is influenced by one or more good teachers from my own period as a student.
	14. There are some inconsistencies between my beliefs about instructional practice and my actual teaching.
	In the open-ended questions, one of them was relevant: 1. What features does a good teacher have?
Teachers' Understanding of Changes & Evolution in Reforms	Participants were asked to read the statements and choose one from the five items as follows: A. Strongly disagree B. Disagree C. Neither agree nor disagree D. Agree E. Strongly agree 15. The curriculum reform has changed my understanding of a teacher. 16. The curriculum reform has changed my own teaching practice.

	17. The curriculum reform has helped improve my teaching ability.
	18. The curriculum reform has helped improve the students.
	19. I always try to accommodates the demands of the new curriculum within daily lessons, activities, and assessments.
	20. My teaching plans are based on the textbooks and workbooks for daily instruction.
	21. I have my own classroom objectives and materials, rather than textbooks or workbooks, for daily instruction.
	22. I have ever designed school-based optional courses.
	23. Most of my classes are student-centered.
	24. The informationization is well received and carried out in my school.
	In the open-ended questions, two of them are relevant to curriculum reform:
	2. Do the teachers welcome the implementation of curriculum reform in your school? Why?
	3. In which aspect(s) has the curriculum reform influenced your professional development?

Some results of the responses (The figure in each item represents the number of participants who made the relevant choice.)

Item	A	B	C	D	E
Part 1 Basic information					
1. What's your gender?	4 Male	4 Female	/	/	/
2. How long have you been a teacher?	1 Less than 2 years	1 3-10 years	4 11-17 years	2 At least 18 years	/
3. What subject(s) do you teach?	2 Language	4 STEM	2 Social Science	/	/

	7 Bachelor's degree	1 Master's degree	6 Qualifica tion of 'Senior Teacher'	0 Others	
4. What prior teacher education have your received?					
5. Which group(s) of students do you teach?	1 Senior 1	4 Senior 2	3 Senior 3		
6. Besides being a subject teacher, what other responsibilities do you have?	2 Tutor	2 Subject area teacher	1 Administ rator	2 Others	
Part 2 Teachers' Perception of TPIs					
	A. Strongly disagree	**B.** Disagree	**C.** Neither agree nor disagree	**D.** Agree	**E.** Strongly agree
8. The subject I studied determined my decision to become a teacher.	0	0	0	6	2
9. In my lessons, I pay a lot of attention to varied learning activities.	0	1	0	4	3
10. As a teacher, I serve as a model for the way students mix with each other.	0	0	1	2	5

11. Cooperation with colleagues is important for my work as a teacher.	0	0	0	2	6
12. The importance of experience is that I have developed a personal teaching style.	0	0	3	3	2
13. My way of teaching is influenced by one or more good teachers from my own period as a student.	0	1	1	4	2
14. There are some inconsistencies between my beliefs about instructional practice and my actual teaching.	0	3	0	5	0
Part 3 Teachers' Understanding of Changes & Evolution in Reforms					
	A. Strongly disagree	B. Disagree	C. Neither agree nor disagree	D. Agree	E. Strongly agree
15. The curriculum reform has changed my understanding of a teacher.	0	3	1	4	0

16. The curriculum reform has changed my own teaching practice.	0	5	0	1	2
17. The curriculum reform has helped improve my teaching ability.	0	4	2	2	0
18. The curriculum reform has helped improve the students.	0	3	1	3	1
19.I always try to accommodates the demands of the new curriculum within daily lessons, activities, and assessments.	0	0	1	6	1
20. My teaching plans are based on the textbooks and workbooks for daily instruction.	0	2	0	6	0
21.I have my own classroom objectives and materials, rather than textbooks or workbooks, for daily instruction.	0	0	0	6	2
22.I have ever designed school-	1	0	0	6	1

based optional courses.					
23. Most of my classes are student-centered.	0	0	0	6	2
24. The informationization is well received and carried out in my school.	0	2	0	5	1

Results of Item 7:

	Subject matter expertise (points)	Didactical expertise (points)	Pedagogical expertise (points)
LT1	30	30	40
ST1	50	40	10
LT2	30	35	35
ST2	50	30	20
ST3	40	50	10
ST4	40	40	20
SST1	40	30	30
SST2	35	35	30

Appendix 2: Interview protocol

Key questions in the interview

Date: _____ Time: _____ Subject NO._____

Thank you for your willingness to participate and be interviewed here. I have been studying teacher's professional identity or TPI and I am now especially interested in the TPI in the curriculum reform.

Q1: Why did you choose to become a teacher?

Q2: What are the responsibilities of a senior secondary school teacher?

Q3: What role(s) should a senior secondary school teacher play?

Q4: What's your understanding of a good teacher? List some features.

Q5: Do you want to become a Special Rank Teacher? Why or why not?

Q6: Which reform(s) made the biggest impression on you?

Q7: Did the curriculum reform(s) change your understanding of being a teacher?

Q8: How has the curriculum reform(s) change your teaching practice?

Q9: Do you believe the curriculum reform will continue?

Appendix 3：the ethical approval letter

Research Ethics Panel response

☒   the research can go ahead as planned

☐   further information is needed on the research protocol (see details below)

☐   amendments are requested to the research protocol (see details   below)

FHSS REO…Melissa Shani Brown……   Date ……18/01/2019………

FHSS REO…Maria Julia Trombetta…………… Date……18/01/2019

Appendix 4：An example of the thematic data analysis: ST3's remarks

In the past, I made some changes in my teaching but that was 'unconscious'. But now many things are very clear and they are systematically stated in the documents concerning the curriculum reform. It is not 'grass-root' but based on relevant theories. Also, it helps teachers to have a big picture before making teaching plans, so I quite agree with the values and beliefs advocated by the curriculum reform. However, what matters is the implementation of the curriculum reform policy. How to make *Gaokao* 'identical with' curriculum reform is of a great challenge. Our solution is that 'Excessive Assignments Tactic' (Tihai Zhanshu, 题海战术 in Chinese) is widely used in our daily teaching, especially in Senior High Three. In teaching new knowledge, especially in demo classes, values and beliefs of the New Curriculum Standards are adopted and enhanced. In essence, the current *Gaokao* focuses too much on the textbook, which does not well reflect the value promoted by the new curriculum reform. *Gaokao* tests more of the details of textbooks, which seems to be textbook-centered, while the New Curriculum Standard focuses more on the application of core knowledge of our subject as well as the abilities of the students.

The summary of the data content could be: ST3 explained the changes she made in her teaching practice since the introduction of curriculum reforms.

More importantly, some key features of data could be identified, analyzed, and interpreted. Major procedures and results of data analysis can be seen in the table showing the coding for each round of analysis as follows.

Round of analysis	Major procedures of analysis	Results of analysis
Round 1	All data were carefully read and reread. A code entered when a piece of data illustrated, showed, or implied a unit of meaning.	Some words were identified as codes like '*Gaokao*', 'demo classes'.

	Examples: Codes related to the participants' professional identities or possible explanations of the change of such identities, like '*Gaokao*', 'demo classes', emerged.	
Round 2	Relationships between codes were analyzed through repeated comparisons. *Examples*: Values and beliefs required by curriculum reform policies was just 'partly' instead of completely implemented in the teaching practice. In daily teaching, 'especially in Senior High Three', *Gaokao* played a significant role and 'tests more of the details of textbooks.' But curriculum reform 'focuses more on the application of core knowledge of our subject as well as the abilities of the students'. Demo classes showed advantages in teaching new knowledge, as 'values and beliefs of the New Curriculum Standards are adopted and enhanced'.	Conclusions of relationships of codes could be drawn: 1) Divergence did exist between the curriculum reform policy and its implementation, especially due to *Gaokao*. 2) Demo classes, in this participant's view, promoted the implementation of curriculum reforms.
Round 3	By comparing the codes with those of other participants, reorganization of the tentative categorization was realized and contributed to the construction of the conceptual framework. *Examples*: Words like '*Gaokao*' was found frequently in other participants' data (e.g. LT1, ST1, SST1).	Codes like '*Gaokao*' were decided to contribute to the construction of the conceptual framework.

	Many similarities were found in their perceptions and teaching practice. *Gaokao* was used as a code in the major findings, especially in the discussion of the exam culture in the researched context and topics focusing on anxiety or pressure (see Section 5.4.2) and the increased workload of the participant teachers.	'Demo classes' was not used as a code, but just integrated with codes like 'professionalism'.
	'Demo classes' were interpreted differently by participants. The younger ST4 and SST1 showed negative emotions, seeing them as extra burdens. By contrast, LT1 and ST3 considered demo classes as opportunities to improve the teachers' professionalism. Also, classes of this kind could serve as useful ways to study a new curriculum reform, thus often benefiting the implementation of these reforms in the real teaching practice.	