



UNIVERSITY OF LEEDS

**Title: The Nature of Teacher-Student Relationships
in Provincial Chinese Primary Schools in a Period of
Uncertainty**

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The candidate confirms that the work submitted is his own and the appropriate credit has been given where reference has been made to the work of others.

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ABSTRACT

Conducted during the worldwide COVID-19 pandemic, this doctoral study investigates the factors that contributed to positive teacher-student relationships (TSR) in provincial Chinese primary schools. It includes two independent but related studies. Study 1 investigates the online education situation during the pandemic when a primary school (student age 7-12) and junior middle school (student age 13-15) were forced to suddenly transition away from face-to-face teaching to a fully online education for a whole semester (five months). Study 2 seeks to explore the reasons for positive TSR and the process of TSR construction in two different primary schools (student age 7-12) in the same locality.

Study 1 presents a qualitative investigation of online education during the pandemic. Based on analysis of online classroom observations, teacher interviews and student interviews from two schools, the study describes the online learning conditions and identifies the main challenges faced by learners and teachers. Learner motivation is found to have significantly declined in this period, while teacher-student communication and interaction are obstructed. Learning outcomes are unsatisfactory to both parties. Study 2 adopts mixed methods to explore the research questions which are focused directly on what makes for positive TSR. Firstly, a survey of TSR is conducted to identify teachers who have constructed excellent TSR with the majority of the students in their class. Two outstanding teachers and their classes are then identified from two schools. After that, student focus groups, teacher interviews, classroom observations and subject painting are conducted with these two teachers and their students. The results show that students like their teachers for their humour, caring attitudes, giving reasonable criticism, good interpersonal communication, personal teacher characteristics and professional dedication. The teachers have altruistic career motivation and attach importance to whole class level teacher-student interaction. For the students, positive TSR benefits the students' academic emotions and appears to improve their engagement and motivation to a great extent.

Both studies reinforced the importance of positive TSR in successful primary education. The main implication of study 1 is that online education has to find a way to maintain these relationships or

learners' motivation will suffer. Study 2 confirmed the great benefits of positive TSR on students' engagement, motivation and academic emotions, indicating whole class level positive TSR could be successfully constructed with certain teacher perceptions and strategies. While the studies highlighted the great value of TSR construction in both online education and face-to-face education, it also points to certain issues which are in urgent need of further research.

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ABBREVIATIONS

TSR	Teacher-student relationships
DT	Digital technology
MOOC	Massive open online course
LTA	Learning, teaching and assessment
STEM	Science, technology, engineering, and mathematics
PE	Physical education
NTC	National teacher certifications
TSRQ	Teacher-student relationships questionnaire
QTI	Teacher interaction questionnaire

Chapter 1: Introduction

I did not major in education before my PhD programme. More specifically, I majored in Animal Science for the undergraduate and master's period for seven years. What leads me to research in education with this topic of Teacher-Student Relationships (TSR) is an exciting story. When I was a child, I liked animals and pets very much. I felt I could read their emotions through their eyes and behaviours; automatically, I treated them as friends. That is why I chose Animal Science as my major when I entered University. As I was getting older, I gained more professional knowledge and, at the same time, thought more about our society. One of the most impressive things I had was that when I visited a zoo, the animals there were caged and starving for the food in the tourists' hands. I was in tears immediately when I saw the sorrow in the animals' eyes, their filthy habitat and the hungry behind their enthusiasm for food. From that time, I did not have any courage to enter any zoos any more. Putting this experience in the extensive background of wildlife extinction and environmental pollution; I gradually realised that it is the human's mind and awareness that could decide the destiny of the animals. What beneath animal abuse and environmental pollution are the economic conditions of local people's lives, as well as their systems of beliefs. Ultimately only the human can solve profound problems like these. But what determines the human mind? Education.

Thus, after graduating and getting my master's degree, I made efforts to get my nationally qualified high school biology teacher certificate and started my professional career as an elementary teacher. When I was teaching for the volunteer program in a rural elementary school, with more opportunities to communicate with the local people, I became increasingly aware about the importance of education. I thought, teaching and education are not only interesting but also closely bound up with the future of society, especially people living in poverty. When I was tracing back from miserable phenomena, such as poverty and crime, or people living in difficult situations, I could always find a childhood that is not well educated or lacking in family care.

In my class, most of the students had a low socio-economic background and over half of them were left-behind children, which meant their parents were working outside their hometown and they were

raised by relatives like grandparents (more details about left-behind children can be seen in the Context section of Study 2). I would like to say all my students were cute, curious and innocent children, even though many of them lacked family care and appropriate study habits. What surprised me the most was that, after teaching them for one year, I saw a big difference within the whole class. The academic achievement in our class had improved dramatically, almost from the bottom to the top. Some students who used to get 20 marks can get 80 marks now, in hundred-mark system exams. Most importantly, I could see the whole class's positive, sunny, harmonious mental state. My students seemed to like the lessons I taught very much. When I was standing in front of the classroom, faced with fifty pairs of eager eyes, I felt an enormous responsibility. They were so trustful towards me. I cautiously organised every single word in my mouth because I was aware that my attitude and emotion, apart from knowledge, would greatly influence them. Education has a far-reaching impact and could change society profoundly, so I am eager to explore deeper and make a bigger difference, that is, to pursue a Ph.D. education.

My teaching experience is the original and crucial reason I conduct this TSR research. Even though many things changed when I was teaching in the Chinese primary school, I realized that a closer connection between the teachers and students might be the key factor that makes a difference. I observed many educational problems with the subject teachers in Chinese schools, especially in rural areas. Some lessons were designed and taught in ignorance of students' feelings and psychological states. Over seventy per cent of middle-age teachers (in the school I was teaching, according to my informal survey) were using an authoritarian style in teaching, which made the students (especially left-behind children with a relatively lower academic record) feel that the learning is an arduous task and contributed to them losing their interest in the subject. This situation led to weak educational outcomes and these students quitting school at an early age. From a practical consideration, I believe that TSR might be critical to help disadvantaged low-achievement students, and get them out of the vicious circle whereby (low-achievement leads to loss of interest, which makes the studying worse, then dropping out from school at an early age; low educational level leads to low income, which means they have less knowledge, time and money to educate their children, then poverty is transmitted across the generations). Even though I know that, for these students, lack of family care is the original reason for their adversity. I cannot ask the parents to do more beyond their ability and cut down their source of finance for the family. The best way to solve it locates in the schools and teachers; for me, it most likely to be TSR. At that time, I did not have much academic awareness of TSR studies.

After reading more literature about primary education, I became more aware of the unique effects of TSR. It has been reported that, compared with factors in categories of teacher, student, school, family, curricula and teaching strategies, high quality of teacher-student relationships (TSR) is one of the most influential factors that contribute to students' learning achievement (Hattie 2008; Fosen 2016). A comprehensive synthesis of over 800 meta-analyses of research on what works in education, including 52,637 studies counting 236 million students, exhibits highlight on the effects of TSR on study outcomes, compared with other elements in education (Hattie,2008). Positive TSR could not only improve student's academic emotions and achievement, but also help teachers' mental health (Milatz, Luftenegger, and Schober 2015; Spilt, Koomen, and Thijs 2011). Combining the academic reading and my practical educational experience, I confirmed my interest and belief in TSR research. It is why I came to Leeds to conduct my PhD studies in education and TSR.

Before the pandemic, everything seemed promising. My PhD program started in October 2018. In the first year of my doctoral program, I was thrilled to start my study and research in Leeds. With the help of my two supervisors and my unremitting efforts, I completed my doctoral research plan and passed my doctoral transfer after the piloting my experimental method. In December 2019, I returned to China, preparing to have the most important traditional festival in China, the Spring Festival, with my family. At that time, all primary and secondary schools in China were also on holiday. Then in the new semester, I would start the field research in China and collect data in primary and secondary schools. However, in January 2020, the COVID-19 epidemic broke out. My small hometown is in a subordinate city of Hubei Province; the capital city of our province is Wuhan, where the outbreak began and was the most serious. Due to the dense population in China, the quarantine system is rigorous, especially in our province. Many people worked in Wuhan return to their hometown in the subordinate towns to prepare for the traditional festival. In our town, there were also numerous people who came back from Wuhan, so we were quarantined at home very strictly. There was hardly any reason to go out except to the hospital, the necessary food was bought for you by staff, and the street below us was closed with barbed wire. Under such isolated conditions and constantly seeing people in Wuhan who have died due to COVID-19 on the news, I feel a great sense of panic. I remember that at that time for almost two or three months, I did not dare to open my mailbox and contact my supervisors because our daily life and even life safety were not guaranteed, and we were terrified of being infected by people who came back

from Wuhan. My research was totally unworkable. All schools in China were closed, making it impossible to collect data and conduct field research in primary and secondary schools.

As it was, the pandemic policy in my home province didn't change until May 2020. After five months of strict quarantine, I could actually get out the door. The primary and secondary schools in my local area were also doing almost an entire semester of online education. By that time, I had resumed my online work and was discussing more with my supervisors about my research plans and changes. In China, the education system went entirely online, and the traditional school face-to-face education and teacher-student model also altered, so it would be very difficult to continue my original research on teacher-student relationships directly at that time. Instead, there was an excellent opportunity to look at the state of fully online education in the context of the epidemic, the issues revealed in the online research and the lessons that could be learnt. Therefore, after discussions with my two supervisors, I undertook the study of online education in Study 1 of this thesis. In addition to understanding the status, issues and experiences of online education in my research, I also explored the impact of epidemic-enforced online education on teacher-student connections. Since I still hoped to conduct my original study once the pandemic was over, this raised the possibility that TSR could be the common theme running between two separate but interlinked studies.

Luckily, as I got along well with most of the students and teachers at the schools I had worked at previously, I was able to recruit enough teacher and student participants for Study 1, and the data collection was successfully completed in September 2020.

While collecting the data for study 1, it became clear to me that teachers play an essential role in student learning, including online learning, and that positive TSR can help against the decline in motivation and engagement that students generally experience during online learning. This confirmed my belief in the importance of TSR, which as previously noted was one of my key research interests before I even started my PhD. Study 1 also helped me get familiar with the educational situations in schools after the epidemic. Teaching activities and teacher-student interaction in the school have been resumed. This also laid the foundation for the subsequent study 2. Moreover, I had completed almost all the preparatory work required for research on TSR, or Study 2, during the transfer year, including extensive reading notes on the relevant literature and details of data collection. So, at my insistence, in

October 2020, I continued my original TSR study and began recruiting participants in another province that was less affected by the epidemic and where the online classes lasted less time. To summarise, while Study 1 was improvised in the context of the Covid-19 epidemic sweeping the world and mutating, its emphasis on the teacher-student connection helped to set the scene for Study 2 on teacher-student relationships, which was the originally planned PhD project.

The two studies took me a total of four years and nine months to conduct and write (my PhD project was extended twice, once for six months due to the epidemic and a second time for three months due to the severe reactions and anxiety of the COVID), partly because of the need to complete two studies during my PhD and partly because of the impact that the recurring epidemic had on me. The very first outbreak of the epidemic in early 2020 put me under severe quarantine for five months straight. It was during these five months that, in addition to the psychological stress and anxiety, I also had a great deal of difficulty with health issues. Because of the lack of space to move around and the long periods of sedentariness, I began to suffer from waist pain and haemorrhoids during the quarantine. I completed my field study in China in 2020 and returned to the UK in 2021, which coincided with the widespread quarantine in the UK and the prolonged closure of schools. There was nowhere else for me to go in the UK; apart from going for walks and shopping for essentials, I spent almost all of my time in the cramped flat I lived in. Altogether I spent nearly 18 months in strict isolation during my PhD period.

I returned to China in 2022 due to economic factors and loneliness, and again encountered the quarantine of the latter variant of the epidemic as well as the epidemic infection of China's final opening policy. On 1st October 2022, I applied for an extension for six months and got approved. But in November and December, I felt an intense depression and was very inefficient in my studies. I did not have easy access to other PhD students. My family is also one without much educational experience; I was the first person in my entire family to get a university degree. My parents and family did not quite understand why I could not graduate after more than four years of my PhD. Despite my many patient explanations, they continued to ask me when I would actually graduate and start to work. I could not gain the understanding and moral support from my family. Moreover, China's epidemic prevention policy from September to November 2020 was full quarantine conditions. I had not been able to leave the house. In December, China changed its quarantine policy and opened it completely, so the epidemic spread rapidly through the country. I was infected with COVID after just one trip to the

supermarket to buy the food necessary for life. It was my first-time infection and caused another few weeks of poor physical and mental health.

Despite the rare worldwide epidemic and its profound influence on me, I have tried my best to complete my research and this thesis. Chapter 1 of this thesis is an introduction to the origins and background of the research; chapter 2-7 is Study 1, the study of online education in two rural primary and secondary schools in China during the epidemic. Chapter 8-14 is Study 2, the study of the nature of teacher-student relationships in two Chinese schools. The research of study 1 has been submitted to a journal, reviewed and revised, and I am currently awaiting a second review.

Chapter 2: Introduction to Study 1

The outbreak of corona-virus disease (COVID-19) in the winter and spring of 2020 proved how fragile the national borders were. It took only a few months to bring the entire human world to a pause. The epidemic has affected the vast majority of countries around the world. Between March 2020 and September 2021 alone, more than 179 countries have closed schools nationwide for more than 20 weeks to prevent the spread of the virus in schools and communities; in many countries with severe outbreaks, school closures have even reached 60 or even 70 weeks (Figure 2.1) (UNESCO Report). These countries have experienced unprecedented challenges during the explosion and subsequent lockdown, and the educational system has shifted from offline face-to-face education to multiple forms of online education and distance learning.

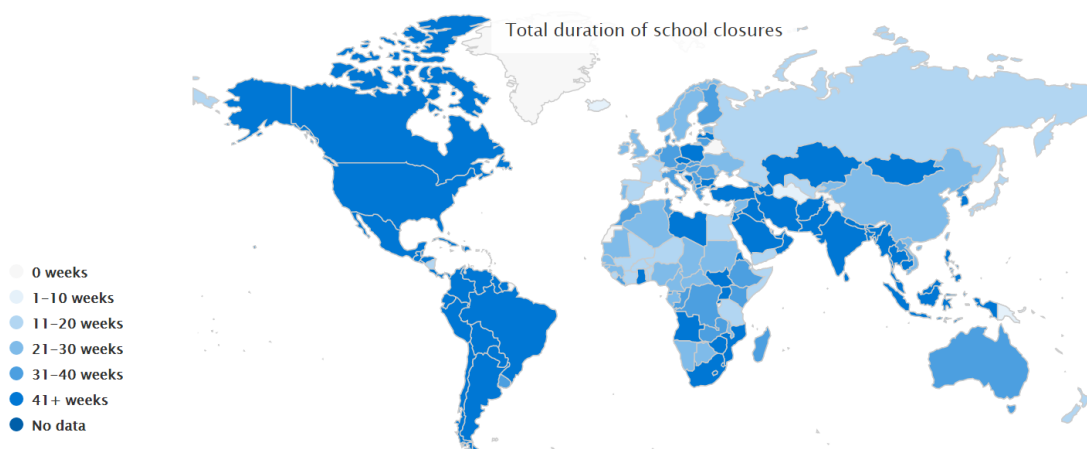


Figure 2.1: Total duration of school closures in the pandemic COVID-19. (UNESCO)

With the extended duration of the epidemic and recurring variants leading to recurring outbreaks, it has become more critical than ever to explore the resilience of education systems in a state of uncertainty, as well as the situation and responses of learners of different ages in online education or distance learning. As discussed in recent case studies from UK (Peimani and Kamalipour 2021), Germany

(Skulmowski and Rey 2020), China (Bao 2020), India (Mishra, Gupta, and Shree 2020), and Bulgaria (Angelova 2020), the experiences of different national education systems in the period of the epidemic could also help the development of more effective learning, teaching and assessment methods during ‘normal’ times while improving educational institutions’ preparedness for any subsequent public health crisis.

The online education and distance learning model was already a topic of considerable interest in the education sector before the epidemic. In recent years, with the development of digital technology (DT) and the rapid globalisation brought about by the internet, many educational institutions, especially in the higher education sector, have experimented with DT to disseminate knowledge more effectively and to new and diverse groups in their communities (Öztaş, Özdemir, and Mart 2017; Birch et al. 2019).

As mentioned in Chapter 1, the schools in China shut down and all teaching activities were transferred to online learning mode. This situation applied nationwide to all schools, all teachers and students, all subjects and all learning activities. In the participating schools in this study, it lasted one semester (after the semester was over, almost all Chinese schools returned to regular schooling). It is a unique opportunity because it offered a seamless comparison between school classroom education and online education in almost every aspect. This study about online education, Study 1, was conducted from March 2020 to September 2021 in a primary school and junior middle school. Generally, K12 education in China contains four stages: kindergarten stage (student age 5-6), six-year primary school stage (student age from 7-12), three-year junior middle school stage (student age from 13-15) and three-year senior middle school or high school stage (student age from 16-18).

The context of study 1 was in the provincial or rural town primary school and junior middle school. These two schools are the main primary school and junior middle school in the township area. This town attaches to Jingzhou City, Hubei Province, China. The population of this town is about 41 000 (Government statistics, 2020). Traditionally, majority of the local people engaged in agricultural production for make a living. Due to the income and working opportunity reason, considerable parents of the students working in big cities, which made the students left-behind children. Left-behind children mainly come from the migrant population in China’s urbanisation process (beginning in the 1970s, known as the reform and opening-up policy). According to the United Nations (2018), China is

one of the typical countries with the fastest pace of urbanisation. In order to access the higher incomes and vast numbers of employment opportunities, many rural labour forces swarm into cities participating in city construction. However, a large number of adolescents and children could not migrate with their parents for various difficulties like unstable living situations, finance, and the residency (Hukou, in China) policy. Besides relatively insufficient resource matching and limited urban schools' capacity, most of their children remain in rural schools, living separately from their parents during term time or even permanently. The separate states make the parents unable to provide sufficient emotional support and help with their children's studies, which brings disadvantages in various aspects of the children's growth (Edillon 2008; Liu et al. 2015). The left-behind children are in lack of parental care and nutrition (Tan et al. 2018), and they still need to deal with the academic challenges in their studies and pressure from school and peer competition, especially in junior and senior secondary schools (more details of left-behind children could be seen in Chapter 9.3).

In chapter 3, I will present the literature review on online education. In chapter 4, I will describe the methodology of this study. Chapter 5 is the elaboration of the results of this study. In Chapter 6, I will discuss the findings and compare them with our current level of knowledge as reflected in recent literature. Chapter 7 is the conclusion to this study.

Chapter 3: Literature Review of Study 1

3.1 Online Education

Online education refers to the use of applied information technology and the internet for disseminating knowledge/skills and rapid understanding. It is also known as e-learning. “e” stands for the electronic system, extended or enhanced. Since 1998, as information and communication technologies continue to develop at a rapid pace, online education has been spreading worldwide, expanding rapidly from North America, the UK and Europe to Asia, with a profound impact on academic discourse, research and everyday practice of teaching and learning (Zhou et al. 2020). Online education can be used as a complementary approach to the traditional classroom, focusing on the blended learning styles of today's digital age, including online lectures, discussions, forums and video sites and apps etc., with the ability to connect students in synchronous learning activities. This blended approach to learning and course design is one of the most popular modes of course delivery in higher education (Alexander et al. 2019), because of its ability to integrate online and traditional methods through complementary and diverse technological approaches; it effectively facilitates the achievement of course learning outcomes (Garrison and Vaughan 2008). Ikenberry (1999) summarises this change as a substantial expansion in the speed of communications technology and the ability to send, receive, use and store information.

Scholars and educators around the world are actively exploring ways to educate students and help learners using digital resources effectively, and many good examples of online learning have emerged, especially in higher education (Öztaş, Özdemir, and Mart 2017; Birch et al. 2019). There is also a growing interest in introducing effective online education and the aim of optimising educational models, as Anderson and Herrington stated (Anderson 2008; Herrington, Reeves, and Oliver 2009). At the same time, however, an increasing number of people are engaged in discussions about the challenges associated with this model of teaching and learning. It is argued that students taking online courses are less likely to engage in collaborative learning activities, discussions with others and student-teacher interaction than students in face-to-face settings (Dumford and Miller 2018). The

Classroom Assessment Scoring System (CLASS) Framework (Hamre & Pianta, 2007) conceptualized teacher-student interaction from empirically supported framework; it proposes that teacher-student interaction in the classroom setting containing three different aspects: classroom organization, instructional support and emotional support. These three aspects of teacher-student interaction were all considered in the research process of the present study. The communication and information exchange in online courses is, sometimes, limited to presentations by the instructor or activity organiser. The interaction between participants and the instructor is, on the one hand, not direct and fluid and may not be as timely as in a face-to-face environment. On the other hand, there is sometimes not a good or intuitive communication platform or environment for direct interaction between participating students in an online course, especially when the number of students is significant and multiple group discussions are not as easy to conduct directly in an online course. Under an online education model, it may have higher requirements to achieve better results, including the relevant competencies of educational institutions, teachers and students.

Institutional factors are the prerequisites that can influence the quality of online learning; they include technical infrastructure, related experience, policy and funding. Access to stable, high-speed internet connections is often limited due to low Wi-Fi reliability in some learning environments, such as student residences, campus housing or outdoor environments,. Regional economic conditions, technological facilities and experiences can also influence the conduction of online education and the attitudes of teachers and learners (Gierdowski 2019; Budur 2020). Without available and effective software and curriculums, teachers and students would not easily accept the online learning mode. The curriculum design in online learning mainly refers to course information, teaching objectives, course organisation and course outcomes. A successful strategy should aim at improving online learning practice and enhancing students' learning outcomes. Inappropriate course design can create obstacles to the successful implementation of online education, whereas well-designed online courses could further improve learners' knowledge and skills (Ozkan and Koseler 2009). The institutions also need to gain experience in the regular running of online education to build resilience in the systems.

Teacher training and support, effective use of online technology and solving technical problems are also major challenges in online education (Norton, Sonnemann, and McGannon 2013; Shuey 2002). Teachers are at the central position of online lesson preparation and teaching; their proficiency, related

knowledge and skills would be vital for the practical conduction of online education. Proficiency in the use of computers and internet tools places greater demands on the relatively older teachers in traditional education. The face-to-face teaching that most teachers are used to cannot be exactly replicated in the online setting even with the best resources. The online mode of education often does not allow teachers to reach or contact students directly, and the lack of direct teacher supervision or interaction with underage students or those with relatively little self-control is another issue that requires attention in terms of their concentration or participation in the online classroom. How can we engage students in the online classroom environment, try to ensure their participation in class, or monitor poor learning behaviour, such as truancy and plagiarism, in order to improve student learning gains? These responsibilities place greater demands on teacher in the context of online education. Shuey (2002) also discusses the challenges for teachers in higher education in adapting teaching activities to online activities without losing knowledge content or interaction with peers and students.

Another factor that affects online learning is learner characteristics and their performance in online lessons. As the information age continues to evolve, information technology has entered and profoundly influenced every corner of our lives, especially the younger generation of today, whose connection to digital and information technology has made them radically different from the students of twenty or even ten years ago. Palloff and Pratt (2003) studied students' visions and perceptions of online education, and they pointed out that it is important to understand students' feelings about online education to improve the quality of online education and increase student satisfaction. Students' age, gender, cultural background and even major could influence their attitudes towards online learning (Isman and Isbulan 2010). It is argued that online students are less likely to engage in collaborative learning activities, discussions with others and teacher-student interactions than in face-to-face offline lessons (Dumford and Miller 2018). Norton et al. (2013) claim that ensuring student engagement and improving core literacies such as communication and practical skills are all major challenges for online education. Student engagement in the school or classroom can be defined as “the quality of a student’s connection or involvement with the endeavor of schooling and hence with the people, activities, goals, values, and place that compose it” (Skinner, Kindermann, & Furrer, 2009, p494). It is generally considered to be various dimensions aspects including behavioural (student participates in academic, social and extracurricular activities), emotional (student’s feelings and reactions towards learning activities, teachers, classmates and school) and cognitive (student’s thoughts, memories and willingness in understanding knowledge and mastering skills) (Fredricks, Blumenfeld, & Paris, 2004; Roorda et al.

2017). In the present study, students' behavioural and emotional engagement were considered in the engagement assessment; the cognitive engagement is considered in connection with motivation. Johnson, Pas, and Bradshaw (2016) emphasise that online education is not simply about adopting new technologies but about using these services and tools to engage students more deeply in learning activities. For the enhancement of online education, learners' engagement should be improved, as advised by Kamali and Kianmehr (2015).

Researchers also conduct studies to measure and evaluate learning outcomes in online education contexts, particularly in the education systems of developed countries. Budur (2020) developed an assessment project to monitor and improve massive open online course (MOOC); in the assessment, the participation, students' academic achievement, coverage rate and quality are the four vital dimensions to evaluate the online course. Another evaluation study claims institutional factors, curriculum design, teacher characteristics and learner characteristics are the four key determinants of online learning outcomes and students' satisfaction (Pham, Williamson, and Berry 2018). These measures put student learning outcomes at the forefront of online education. They also consider institutional factors, course design and teacher characteristics to ensure that participants have a better experience and gain in the online classroom.

Public discussion and research on online education often draw a clear distinction between online and on-campus education, but both are subject to change depending on online technology and practicalities. As many of the scholars mentioned above emphasise, what matters is how emerging technologies are used to support teaching and learning activities and learners, regardless of the formal delivery medium. This comments coincides with Hattie's view that effective teaching and learning strategies in education should make technology serve pedagogy (Hattie 2008). Thus, the effectiveness of online teaching strategies, student satisfaction, and academic achievement would be the key focuses of the current study when the factors discussed above were referred to.

3.2 The move online during Covid-19 pandemic

As I have noted, educational institutions worldwide, in response to the sudden social crisis, made urgent adjustments to their teaching and work to adapt to the changing forms and uncertainties. Early studies during the COVID pandemic already show that these changes posed significant challenges for academics, teachers and students (Peimani and Kamalipour 2021; Sintema 2020).

As the previous section shows, internet connectivity is a prerequisite for online teaching and learning. This problem has been widely reported in developing countries in emergency remote teaching. For example, a study in India said that in rural areas, students identified the internet as the biggest problem (Muthuprasad et al. 2021). A study from higher education in Turkey also cited the internet and technology as one of the most considerable difficulties facing online education (Doyumgaç, Tanhan, and Kiyamaz 2021). Higher education instructors in the Philippines (Moralista and Oducado 2020) and Ukraine (Bakhmat, Babakina, and Belmaz 2021) also ranked the lack of a stable internet connection as the most fundamental problem. In Pakistan, the lack of hardware required for online classes was listed ahead of issues with the internet (Anwar, Khan, and Sultan 2020). In contrast, problems with hardware and networks are much less commented in Western studies, for example, in the UK and Europe (Watermeyer et al. 2021; Skulmowski and Rey 2020).

Secondly, the platform's usability, IT proficiency and preparation of online teaching content were among the challenges faced by the forced online classes during the pandemic. Especially in some countries with limited technology, their schools are not yet ready to fully implement national online education (Sintema 2020). Statistics from a Chinese online class platform showed that the functionality and usability of the platform had the most significant impact on the satisfaction of teachers and students in online education (Mahmood 2021). The lack of relevant training for online classes is also believed to constrain teachers' willingness to conduct online education in the Philippines (Moralista and Oducado 2020). Meanwhile, Bao (2020) reports teachers at Peking University (China) widely complained that online education required more preparation in terms of course and pedagogical content. The demands on teachers in online education have also increased, with a lack of training and preparation, online teaching resources sometimes being a limitation, and a significant increase in the work required of teachers (Basilaia and Kvavadze 2020). A study of academics from different disciplines and levels in the UK found that for many teachers, being forced into an online technology-supported form of LTA

(Learning, Teaching and Assessment) caused them heavy stress and a sense of disorientation (Watermeyer et al. 2021).

Online learners' attitudes towards the quality of online education may be a practical factor that forces us to think more about the effectiveness of online classes. A survey on students' satisfaction in Iraq showed that about 40% of students found online lessons in forced situations acceptable, but 40% also did not find these lessons as effective as they thought (Budur 2020). Additional studies also indicated that learning in online classes did not produce satisfactory results from the learners' perspective (Zhou et al. 2020; Adnan and Anwar 2020). In India, Arora and Srinivasan (2020) reported that respondents felt the most important hindrance to online classes was the lack of human contact and interactive communication. This view is echoed by researchers in Pakistan reporting that students felt that online courses were less emotional and more impersonal than face-to-face classes (Adnan and Anwar 2020). The issue of communication was noted by scholars in online education before the epidemic. Some scholars realised that communication in online lessons was problematic, and developed voice assistants to help teachers and students communicate in online classes; in a study of their, use voice assistants could improve online learning outcomes (Winkler et al. 2020). Themelis & Sime (2020) also suggested that holograms were beneficial technology in online classes, and their help in teacher-student communication reflected the importance of communication in online education.

Difficulties with online education in the context of the epidemic also reflect in students' engagement and motivation. Motivation in education can generate multi-ply effects on students' learning and students' studying behaviours. It can "direct behaviour toward particular goals, lead to increased effort and energy, increase initiation of, and persistence in, activities, enhance cognitive processing, determine what consequences are reinforcing, lead to improved performance." (p823) (Tohidi, Hamid and Mohammad, 2012). As mentioned before, the assessment of motivation in this study is related to cognitive engagement to some extent, mainly in terms of behavioural and cognitive aspects, referring to students' intrinsic willingness to participate in classroom learning activities, willingness to actively engage in teacher-student interaction and the impetus to engage in learning activities. Zhou et al. (2020) reported a lack of self-control and self-learning by K12 students during the pandemic online learning in China, and the lack of supervision of students leading to unsatisfactory outcomes and declined motivation. A large-scale study in Chinese higher education during the pandemic shows that although

many universities are offering online classes and students can receive support from teachers, the biggest difficulty is a general lack of student concentration and motivation (Sun, Tang, and Zuo 2020). Increased difficulty in managing students and student dishonesty has also been observed in online classrooms (Moralista and Oducado 2020). These studies were all conducted at the early stage of the epidemic and based on a wide range of questionnaires, but they show that a huge challenge for online education during the epidemic is the motivation and participation levels of students. Most studies identify this same phenomenon, but few delve deeply into the causes of the problem and seek practical solutions. More in-depth, qualitative investigation of online education during could complement these quantitative studies and suggest ways of restoring student motivation.

Furthermore, having already read widely about teacher and student attitudes and feelings, and the significance of their relationships for learning outcomes, I believed that these aspects of online education were worthy of more attention. Schools there were suddenly closed in response to the Covid-19 pandemic in Spring 2020, forcing me to postpone my original study (see Chapter 1), but giving me the opportunity to conduct this preliminary study. In this study, I investigated online education experience in primary and secondary schools in the township of Hubei, China, the province with the capital Wuhan where the pandemic outbreak began. In the hope of gaining a deeper understanding of the impact of widespread and prolonged online education on teachers and students, as well as the experience that can be gained, this exploratory study used qualitative methods including classroom observations and interviews with teachers and students. The specific research questions I sought to address were:

1. How was online education delivered in primary and secondary schools in rural areas of China for a whole semester (four months)?
2. What were the feelings and perceptions of teachers and students about online education during this first online education semester?
3. What challenges did they experience and what successful adjustments did they have?

Chapter 4: Methodology of Study 1

4.1 The background and the participants

The study was conducted in two schools in a rural town of Jingzhou City, Hubei Province, China. Specifically, the participant schools are the local primary school (with about 1230 students) and the local junior middle school (with about 580 students). The schools started the online classes on February 2020, and continued for 19 weeks until the end of the spring semester in late June. The local junior high school had a similar situation, except for the final year students (grade 9, aged 15) who returned to school on June, having face-to-face lessons for two weeks to prepare them for the senior high school entrance examination. After the summer holidays in July and August, both schools re-opened and resumed face-to-face classes. Since then, the pandemic in China and Hubei province was basically under control; there have been no further school closures in primary and secondary schools until December 2021. After 2021, several waves of mutation COVID-19 broke out again in China. The schools experienced two periods of closure, but none lasted more than six weeks until now (June 2023).

4.2 Qualitative methods: Online classroom observations and interviews

As noted, most of the research already published about online education during the pandemic has used questionnaires to report the attitudes and views of participants. This study intended to dig deeper into the situations of online education and address the research questions related to teachers' and students' attitudes and feelings, as mentioned above. A qualitative approach was therefore considered more appropriate as it tends 'to sacrifice scope for detail' (p.105) (Silverman 2013) and to permit a focus on

participants' understandings and feelings. Firstly, six online classroom observations (three from the primary school and three from the middle school) were conducted. These enabled me to understand how the online lessons were conducted, even though they were a small sample of the total lessons. Secondly, interviews with both teachers and learners were conducted after the observations. These were mainly conducted face-to-face at a convenient place for the interviewees, depending on their schedule. A small number of interviews were conducted online.

Creswell and Creswell (2017) claims that there are two types of purposes for interviews: exploratory and hypothesis testing. In this study, the interviews were mainly used for exploratory purposes to elicit the participants' feelings; thus a semi-structured format interview was adopted. The teacher interview focused on five main themes: the online teaching situations, learning outcomes, difficulties and ways to respond, other work in the school and the influences of students' families. Students' interview questions centred on four themes closely connected with their studying: feelings and outcomes, motivation and engagement, difficulties and family factors.

Table 4.1 Overview of research questions, methods, data collection and analysis in Study 1

Participants	Research Question	Instrument	Analysis method
Teachers & students	1. How was online education delivered in primary and secondary schools in rural areas of China for a semester (four months)?	Online classroom observation Semi-structured Interviews	Qualitative content analysis
Teachers & students	2. What were the feelings and perceptions of teachers and students about online education during this first online education semester?	Semi-structured Interviews	Qualitative content analysis

Teachers & students	3. What challenges did they experience and what successful adjustments did they have?	Online classroom observation Semi-structured Interviews	Qualitative content analysis
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4.3 Participants

The participants in the junior middle school were recruited from my previous students. Before coming to the UK to start my PhD project, I worked in our local primary school, teaching a group of grade 5 (about age 11) students. I have a good connection with them. When I was collecting data on online education during the epidemic, they happened to be in grade 8 at the local junior school. When I first returned home from the UK, they were very enthusiastic to come and play with me and asked me about my life and studies in Leeds. They were also the ones who helped me with my pilot for Study 2 (see Chapter 11). When I recruited student participants, the majority of them were also very enthusiastic about participating in my research and enthusiastically recommended their teachers to me as teacher participants. During the actual data collection, I also felt that because of their familiarity with me, they could tell me their honest thoughts without inhibitions. Some of their parents were familiar with me and were very happy to know they were involved in my research project. I then recruited six student participants and three teacher participants from the local junior high school. The student participants were deliberately chosen from the teachers' classes so that the group included one high-achieving student and one relatively low-achieving student.

The three primary school teacher participants were recruited from my colleagues in my previous working primary school. They were very enthusiastic about participating in the study and cooperated with me in any way they could, for example, by asking them to recommend student participants and arranging for online lesson observations. The primary school teachers were from different grades, and

the students were selected from different academic achievement levels, so that the participants and the data collected could be as representative as possible.

There were six teachers (three from primary school and three from junior middle school) (see Table 4.1 below) and twelve students (four from primary school and eight from middle school) participating in the study. An introductory letter about the research was given to potential participants among his former colleagues, deliberately targeting teachers of different ages and subjects. All agreed to participate.

Table 4.2: Biographical information of teacher interview participants

Participant	Subject teaching	Gender	School teaching	Age	Years of teaching at this school
Teacher 1	Art	Male	Primary school	28	5
Teacher 2	Chinese	Female	Primary school	48	26
Teacher 3	Math	Female	Primary school	27	5
Teacher 4	Math	Male	Middle school	54	About 30
Teacher 5	Chinese	Female	Middle school	26	4
Teacher 6	English	Female	Middle school	51	About 30

The 12 student participants were also recruited from his former student group or through the participant teachers. As noted, an effort was made to choose students of different academic achievement levels in order to get a range of viewpoints on the provision.

Table 4.3: Biographical information of student interview participants

Participant	School	Gender	Grade	Age
Student 1	Primary school	Male	2	8

Student 2	Primary school	Female	2	8
Student 3	Primary school	Female	5	11
Student 4	Primary school	Male	5	10
Student 5	Primary school	Female	3	9
Student 6	Primary school	Female	3	9
Student 7	Middle school	Male	8	14
Student 8	Middle school	Male	8	14
Student 9	Middle school	Female	8	13
Student 10	Middle school	Male	8	14
Student 11	Middle school	Male	7	12
Student 12	Middle school	Female	7	13

4.4 Data collection

In the online classroom observation, I was interested specifically in the teaching form and strategies, classroom climate, teacher-student interaction and students' reactions. Out of the total of nine online classroom observations, six were conducted on the online platform where the students were attending the class, allowing me to observe the online classroom from the student's perspective of how it was conducted. The other three classroom observations were conducted at the students' homes with their permission so I could observe the students in their actual state when they were online at home. At the time, I considered observing the online classroom in the presence of the teacher in the school, but due to some epidemic control policy requirements, the school did not grant this request at the time. All the observations were recorded, and I was able to go through the recordings afterwards multiple times to make notes on the above aspects.

The interviews with the six teachers lasted between 20 and 30 minutes, and the twelve students' interviews lasted between 10 and 20 minutes. All the interviews were recorded and transcribed. All the interviews were conducted in Chinese, the participants' and researcher's mother language. The data was also transcribed and analysed in Chinese.

4.5 Analysis Methods and Procedures:

The interview data was analysed following Miles and Huberman's framework, which comprise three steps: data reduction, data display and verifying conclusions (Miles et al. 1994). The transcription of the interview materials was firstly analysed based on the topics and questions in the interview (example of transcribed teacher interview content and student interview could be seen in **Appendix H & I**). The transcription sample and extracts presented in the results were translated directly into English literarily from Chinese with minimal editing. Followed by understanding, coding, second-level coding and concluding, which was to refine the materials without information loss and try to gain understanding of the categories or other results (example of coding and coding categories could be seen in **Appendix J**). For the answers given by teachers and students to each question in the interview, each sentence in their answers will get its meaning coded. After sorting out the answers of each sentence, second-level coding will be done for all the sentences in the answers, so as to get their views on this question or the final result of their answers. Answers to each question from the teachers and students were identified and compared. After coding, the categories that emerged were classified based on associated factors and aspects (like teacher, knowledge, atmosphere.). The study's findings were also based on the results of all those interviewed. The results of the interviews were compared with the results of the classroom observations, and the results of the students' interviews were compared with the results of the teachers' interviews, with a view to obtain triangulation.

In addition, the recorded online class observations along with my personal observation notes were analysed alongside teacher and student interview data, to enable cross-checking. For example, regarding the question of how the online lessons were conducted, the teaching methods mentioned by the teacher in the interview and the teaching methods mentioned by the students were identified and then compared with the results of online classroom observation. This enabled me to verify the statements of the participants and sometimes to provide evidence to illustrate them (the screenshot of the classroom observation is included where useful to evidence a point being made like e.g., section 5.5.1). Through this triangulation, the research questions can be addressed more fully, and in a more trustworthy way.

4.6 Ethical Considerations

The participants were recruited adopting an active ethical consent strategy (Dörnyei 2007). As the students participating in the study are minors, in addition to their own consent signatures, their parents' consent was obtained by signing consent forms (example of signed consent form sees **Appendix G**). This was to ensure that the students had free will to participate in the study and had the right to withdraw at any time without reason (English version of consent form see **Appendix F**). Consent forms were also obtained from the teachers who participated in the study. The ethical dimension was also taken into account in the interview questions, which were limited to feelings and thoughts about the online course and did not involve the evaluation of others. Teachers' and students' personal information was not shared; they were referred to as Teacher X (number) or Student X, and no information about the name of the school or place was shown.

Chapter 5: Results of Study 1

The results are presented according to the sequence of the research questions. The first section gives a brief explanation of how online education conducted. The second section presents the students' and teachers' feelings about and attitudes towards three aspects of the online provision: learning outcome; motivation and engagement; communication and interaction. The third part summarises people's challenges and experiences in online education, including factors associated with facilities, lesson preparation, school organization, family factors and vulnerable student group.

5.1 Online Education in Two Chinese rural public schools

5.1.1 Student's online lessons activities

Online lesson approaches

The majority of the online lessons were conducted by live broadcast; there were also other ways such as recorded lessons or letting students watch existing online lesson videos. Approaches the teachers adopted for the online lessons were based on the content of the lessons or their class arrangements. In the online lesson live broadcast, teachers adopted varied teaching modes, mainly lecturing based on students' textbooks [Fig 5.1] or lecturing based on course slides. During the interview, some teachers stated that they would turn the camera on and show their faces during the lecturing; other teachers would let the screen show a book or a slide and only use their voice to teach the lesson [Fig 5. 2]. I only observed one teacher showing her face during the six online lesson observations. In the interview,

several teachers explained that because they thought the students needed to focus more on the studying materials, i.e. the book or the slide:

There is nothing to learn on my face, so I usually make the screen show the book or the lesson slide. (Teacher 2 interview/13.8.2020)

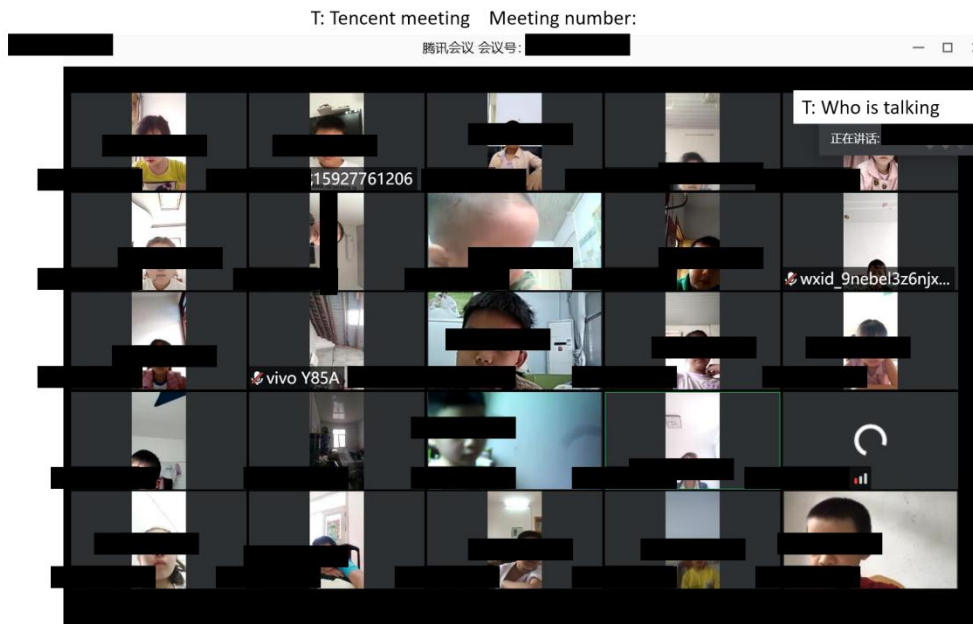


Fig 5.1: The screenshot of the online lesson when the teacher is lecturing (Online classroom observation/6.5.2020)

[Note: For the students' privacy, their names and eyes are obscured. "T: " in the picture: the Translation of the Chinese words in the picture, same as below.]

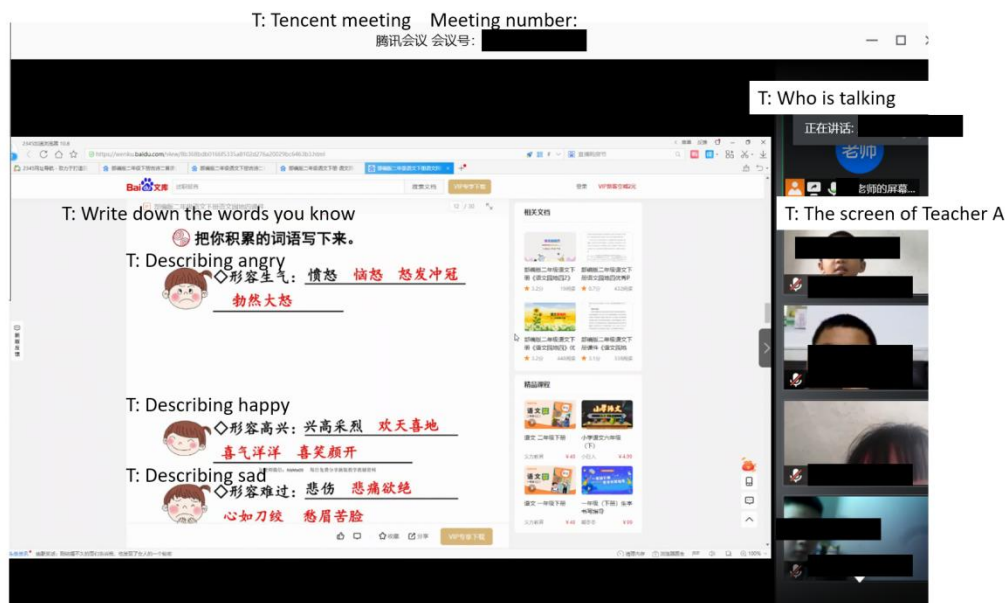


Fig 5.2: The screenshot of the online lesson (grade 2) when the teacher is sharing the screen (Online classroom observation/6.5.2020)

In higher grades [student age 11] primary school and in junior middle school [students aged 13-14], the students I observed tended not to turn on their cameras even though the teachers required it, complaining about the network delay or expressing they were too shy to turn it on. During the online classroom observation in which students had their cameras on, I noticed that students more often communicated with the teacher freely like a face-to-face school lesson. However, I did not observe one student-initiated conversation in the other five online classroom observations where all the students turned off their cameras. There were only two or three instances of communication [teacher questioning and student answering], which is much less than the camera-on lesson.

School extra-curricular activities

In the online learning period, the schools transferred all the extra-curricular activities into online mode, including all the club activities. The students' morning exercises and eye exercises [several kinds of exercises to relax eye muscles] were also conducted online. But sometimes, the outcomes were

unsatisfactory. Teachers stated that students' motivation and learning in these activities were limited by the online learning mode. Also, for some club activities like drum and trumpet, the instruments were at school; the students did not have the necessary resources.

5.1.2 Homework and examinations

Students' homework was also assigned and marked through the internet. Students had social media groups for each subject, including Chinese, mathematics, English, and so on. The students could get the homework, that the teachers released in the social media groups and upload the photos of their finished work to the teacher or in the online learning software. Teachers believed the online learning software was convenient for marking every student's homework. The students could get the feedback and comments from the teacher. There were also teachers in primary school who arranged for peer marking, having the students' homework marked by the student self-management groups; (the students were divided into several groups).

Online studying in these schools lasted for a whole semester (four months). At the end of the semester, the primary school had a paper examination conducted at each student's home. Even though the primary school and teachers tried hard to conduct an examination, the fairness of the examination was still suspect due to the disadvantages of the internet, inadequate equipment and the lack of online resources like online exam materials and software.

The examination was conducted at home, under the supervision of parents in place of us teachers online. But I have to say, from my perspective, the examination has some fake marks. Maybe it's just some parents who did not care much about fairness like us and gave their children some help. (Teacher 2 interview/13.8.2020)

In the middle school, the teachers also held online examinations. All the middle school teachers interviewed had strong suspicions about the reliability of exam results. They stated that the questions in the exam paper could be searched on the internet, and the students' grades did not fit with their knowledge level.

Parents' help is different

In the primary school stage, teachers could get more help from the parents, especially younger students. All the teachers interviewed in the primary school stressed that they get help from the parents in facilitating the students studying online at home. The participant teachers in primary school stated that some students, especially those in low grades, had online lessons accompanied by their parents or grandparents. Whereas in junior middle school, all the teachers reported that they could get little help from their parents. Students became more autonomous and difficult to supervise. One middle school teacher remarked that he was once trying to communicate with a student who was absent from online lessons for several days, but he failed, because there was always no response on the phone number the student gave. What makes this situation more vivid is that another student mentioned a corresponding condition in her interview:

Basically I did not attend the online lessons before noon. My teachers tried to call my parents several times; I know that. But my dad's smart phone was in my hands at that time because I had to use his phone to attend online lessons. I did not answer all the phone calls from the teachers.
(Student 8 interview/17.7.2020)

5.2 Students' and teachers' feelings about, and attitudes

5.2.1 Learning outcomes

All the students interviewed clearly stated that the learning outcome during the online studying was unsatisfactory for them. Almost all of the students commented about the online learning [outcome] with little hesitation and a quite firm tone. Some of their negative comments were relatively direct:

Student 3: I think online learning was much worse than having lessons at school. (Student 3 interview/14.7.2020)

Student 5: It is definitely much worse than studying at school as usual. (Student 5 interview/15.7.2020)

In terms of student willingness, a significant number of students made it clear that they did not like the at-home online class model, preferring to study at school; they thought that at-home online learning had no advantages.

Knowledge acquisition reduced

Many students thought they did not gain much knowledge during the online learning; the knowledge content became more difficult to understand. The knowledge comprehension in online lessons had lower efficiency compared to school. Some students thought that with only one-moment of distraction in an online lesson would miss a lot of knowledge; they could learn more at school.

Most of the teachers in the interviews believed that the students were not learning very well during the online learning phase, and their knowledge did not reach the level that they should have. In particular, all three teachers at the junior secondary level stated explicitly that the effectiveness of the online learning phase made them worried about the students' later studies when back in school. Most of the

teachers expressed that they made a considerable effort during the online teaching but felt that the gains of the students and their efforts were not proportional to one another.

Teacher 6: During the pandemic, I woke up early in the morning and started my work soon; also I worked late sometimes until 12 midnight. But when I saw the results of the students, I felt very sad. (Teacher 6 interview/21.9.2020)

Also, teacher 4 thought that the overwhelming pandemic forced this kind of situation:

Teacher 4: This is the only way you can do it in the pandemic situation; it is much better compared to completely letting the students stay home with no lessons.(Teacher 4 interview/16.8.2020)

Some teachers also suggested that the students need to re-study the knowledge they learnt during the online learning period.

Unfinished homework and cheating

Students think that the affordance of the internet also brings a reduction in their thinking processes and an increased possibility of cheating in homework.

Student 2: After class, some students were doing their homework by copying others' or searching for answers online using convenient mobile phone software, but in fact, the knowledge was not learned at all. (Student 2 interview/14.7.2020)

Teachers also thought students' homework completion during the online learning became worse than their previous school situation. There was a significant increase in plagiarism and lying about homework.

Teacher 5: The students' homework was photographed and handed in online, but some students used other students' homework but wrote their own names on it. They tried to confuse you, whereas actually, I know their handwriting. (Teacher 5 interview/16.8.2020)

The problem of homework was widely reported by the teachers interviewed. Teachers in China view homework as an essential way of understanding students' knowledge level. One teacher highlighted the situation with this statement:

Teacher 6: You may not know how serious this problem is because you are not in this situation. It's probably more severe than you could imagine. We know this because we are involved in it.
(Teacher 6 interview/21.9.2020)

5.2.2 Motivation and emotions

Students' perceived motivation

Almost all the students interviewed reported significantly less motivation for studying during the online study period. Students were less motivated to participate in online lessons with more skip lesson situations. Part of this was due to the attraction of the Internet, mobile games and mobile phones. Some students were even playing online games when they were having online lessons. Students also tended not to complete their teacher's demands because they were not supervised.

Your classmates can send you a message, and you can reply to it. It's easy to have some other distractions, and there were more temptations, like doing other things unrelated to studying during lesson time. (Student 7 interview/16.7.2020)

Several students also claimed they sometimes heard their parents doing things at home or were distracted by the sound outside the windows.

All the students interviewed agreed that the biggest problem of online learning was that it did not have the same learning atmosphere as in a school classroom. This view is quite surprising because all the students involved in this study mentioned this, and, unlike the other questions, which had diverse results, this question was answered with consistency and certainty by the students interviewed. The students thought at school the teachers in the classroom and other studying students around would give

them a completely different environment from studying at home; in this environment, you will want to study. By contrast, the environment at home lacks this kind of learning atmosphere, and many students directly said that the lack of this atmosphere at home made them have little desire to study in online learning classes.

In the school classroom, all students next to you are studying, then you look at them, and then you think, oh, I should study too. Maybe it's like that. But if you're at home, then, there's a plasticine next to you, there's a pen next to you and you immediately play with it. You don't want to study. (Student 10 interview/21.7.2020)

Almost all of the students interviewed reported that they received less help from their teachers and classmates during online classes. For many students, asking their teachers or classmates if they did not understand some knowledge during school studying was important. Many students said it was easier to consult their classmates at school but much harder to do so during online classes.

Student 12: At school, if I say I have a problem, I can go and ask the teacher, or if I, um, did not listen carefully in class, um, then, but for the relatively easy questions, I can go and ask my classmates. They will, um, explain to me step by step, ah; I think it helps me quite a lot as well. (Student 12 interview/24.7.2020)

Several students also mentioned that even though the students' groups did exist during online learning, they still think they did not get much help from classmates; basically they were all studying alone.

Teachers' view of student motivation

Almost all teachers reported that students' motivation decreased significantly in online classes. In some courses, a decline in motivation was a common phenomenon and included many students. The decrease in student motivation was reflected in students' attitudes, emotions and their engagement in studying activities. The attendance of the students in online lessons also went down significantly. Students tried to find excuses for being absent from online lessons. The technical advantages of online studying, like playback (watch the video recording of the lesson after school), could also be counteracted because of low motivation:

The online course is available for playback, and the teacher can see the recordings of the students watching the playback. But the problem is that very few students go and watch the playback of the courses after the online lessons. (Teacher 5 interview/15.8.2020)

Almost all the teachers interviewed directly or indirectly stated that students were often absent-minded in online lessons. A certain number of students did other things unrelated to studying on their mobile phones or other devices while in online classes, such as browsing websites, reading network novels and playing mobile games. This situation was also observed during the online classroom observations. Two out of the six online lesson observations had problems where students were distracted. Teacher 6 was also worried about this situation, as she recalled:

I've asked some students privately, and they said they were not listening to the lessons; they were playing games on split screen. (Teacher 6 interview/21.9.2020)

5.2.3 Communication and interaction

Almost all students complained about the inconvenience of communicating and interacting with the teacher during the online learning period. In the online classroom environment, communication with the teacher was not straightforward. Most of the time, the students did not have their microphone on, and what the students typed in the comment section of the online class was often invisible to the teacher, because teachers might not notice these small characters in the marginal comment section when they were lecturing. There was also a delay in the internet that also reduced communication effectiveness. Some students also felt that in an online classroom, there was less time, and their questions would take up too much of all their classmates' time, so they were reluctant to ask questions. Some students also expressed that the reduced communication with the teacher and the failure of communication attempts also diminished their motivation to communicate with the teacher.

Teachers' view: Reduced teacher-student interaction

There were also teachers who remarked that in the online lessons, the number of students raising their hands to answer the teacher's questions was much smaller than in a regular lesson at school. Also, it is quite often that the students answering questions were the same with almost all the other students remaining silent:

In school, more people raising their hands to answer questions, but in online classes, it's just the certain three or four students all the time. There are even some students who basically didn't say a word in the whole online class semester.

(Teacher 3 interview/16.8.2020)

The difficulties in teacher-student interaction in online lessons make the students more unwilling to communicate with the teachers, which had another consequence: teachers had difficulty receiving students' feedback.

Difficulties getting students' feedback

From the teachers' perspective, it is also difficult for them to be aware of students' understanding level in the online lesson environment, which had a negative impact on the teacher's adjustment of procedures and strategies. For them, it is like teaching in a dark room.

At school, the interaction in class is better; that is, you can see their reaction, whether they answer your questions or not, that is, whether they could understand the question you are explaining. But in online classes, because you are talking to the screen, it feels like you are talking to yourself; it is difficult to get student feedback.

(Teacher 2 interview/13.8.2020)

In the online classroom observations, a similar phenomenon was observed. It showed a distinct situation in the lessons where students do not turn on the camera compared with camera-on lesson. For example, in one online classroom observation which only the teacher showed her faces and could not see the students, the teacher asked the students several times whether they understood what had just

been taught, but then she realised that the students were unable to respond directly. There was a pause of the lesson here. Several seconds later, she gave up. It seems that the teacher naturally hopes to get feedback from students in the course of teaching. The situation that she wanted to get the students' feedback happened several times, and finally failed, and the teacher continued to teach the following content. But in the classroom observation where all the students turned on the video, the teacher clearly interacted with the students and got a response, and the teacher adjusted the pace of the class based on the students' feedback. This finding reveals that in the online lessons, teachers had more difficulties in getting students' feedback. They were unaware of the students' understanding level of the knowledge. Only a small portion of camera-on lessons could avoid this problem.

5.3 The challenges and teacher responses

5.3.1 Difficulties in facilities and instruments

As mentioned before, in this research, the participant students were from a rural primary school and a rural junior middle school. A small number of students still did not have appropriate devices or network for their online lessons: they did not have internet at home, or they did not have available mobile phones or computers.

Several families only had one mobile phone at home, huh, but there were two children; thus only one can watch [the online lessons]. Then, one day, in our class, there was a girl who didn't join a lesson; then I called her parents, and her dad said that he had gone out; thus there was no mobile phone at home, so (the student) could not have classes. (Teacher 5 interview/15.8.2020)

The schools and teachers could do little to help the students with issues like facilities, but the interviewed teachers commonly recalled the government and social enterprises' help. For example, free internet and free SIM card [phone card] data were provided to unprivileged students; the online lesson platforms were also free for users like teachers and students. This situation was noted by teacher 4:

China Telecom and China Mobile give free SIM data to students who don't have the internet at home, which is enough for the [online] lessons. (Teacher 4 interview/16.8.2020)

5.3.2 Workload

Almost half of the teachers interviewed reported unfamiliar with the online teaching mode, especially the older teachers. The main difficulties were in information technology and the time consumption for preparing online lessons. Eyestrain was also a severe problem for elderly teachers [at about age 50]. One young teacher also expressed that during the online teaching period, especially at the beginning, she felt quite depressed, feeling that suddenly increased working time and pressure was tough to adapt to.

5.3.3 Organizational difficulties

As mentioned above, the lack of student-teacher interaction was a major challenge in online learning but it also caused problems for organisation, such as inappropriate schedule management and teaching accidents. The break time was easily overlooked in online learning. The supposed 10 minutes break time was sometimes actually only four or five minutes. Without enough rest time, students reported that staring at the electronic screen of a mobile phone or computer for a long time made their eyes more tired. Moreover, sometimes teachers assigned more homework than students could complete, which led to students' complaints and antipathy. There were also times when the teacher even forgot about the

online class; at school, students can just go to the teacher's office and remind the teacher, whereas in online classes, they had to wait doing nothing in the virtual classroom.

5.3.4 Vulnerable students

Most of the teachers in the interviews said that it was more difficult to cater for left-behind children (students' parents working in other cities with the children left behind in rural hometowns) in online learning. Rural left-behind children were more likely to be uninvolved in learning activities when they were managed only by their grandparents rather than their parents. The children's studying and living habits tended to be poorer than average in regular classes, and this was made worse during the online classes as this teacher complains:

Her grandparents cannot regulate her at all. She plays everywhere every day and doesn't write her homework, she doesn't write anything. A similar situation was reported by several parents. (Teacher 2 interview/13.8.2020)

In addition to this situation, some left-behind children showed psychological problems during online learning, because of the long separation from their parents. Some children would show strong reluctance to be separated from their parents, who had to go out to work. As the same teacher said:

The girl was extremely reluctant when the parents had to go out to work. She threw a huge tantrum, crying, arguing, all lying on the floor in misery; her shoes were all thrown off. (Teacher 2 interview/13.8.2020)

5.3.5 Teachers' determination and frustration

Almost all the interviewed teachers expressed emotionally about their attempts and efforts to overcome the difficulties in online education. The teachers were anxious to motivate the students and help them to become more self-disciplined faced with all these situations and students' states. But the teachers reported that many of the improvements had little effect. The majority of the teachers believed that online studying relied heavily on the students themselves.

We teachers are always trying to improve, but the most important thing is he/she himself [the student]. So if every time he has class, ah, or we adopted many types of methods, but he will still have his own countermeasure...he will always find his own ways. So there will be some effects, but, err, it is not quite obvious. (Teacher 3 interview/16.8.2020)

Also, it needs to highlight that the teachers believed the unsatisfactory online learning was a necessary solution to the problem that they could not have lessons at school. It was still much better than having no lessons at all.

5.3.6 Teachers' responses

This part is about the effective adjustment methods or strategies proposed by the teachers in the interview. These adjustments or strategies help them improve the effectiveness of online courses and reduce the occurrence of problems. This is what they found in the continuous efforts in the online teaching.

Turn on cameras

Students not listening to the lecture and being distracted were a common situation in the early stage of online learning. Thus, teacher 2 asked all the students to turn on their cameras. In this way, she could see the students' faces on her computer screen. She could tell whether the students were staring at the

mobile phone or computer screens, whether they opened their mouths to answer the teacher's questions, or whether they were reading aloud the textbook. Then the situation significantly improved.

After all the cameras turned on, the classroom learning was much better, and basically, the children listened to the lectures and concentrated because they knew that the teacher could see them. (Teacher 2 interview/13.8.2020)

The online classroom observation I observed with camera on was this teacher's lesson. Compared with other lessons observed, her lessons had a significant different phenomenon. Teacher and students interacted well in her lesson; the students had obvious better engagement to the learning activities.

Designing for interaction

Another teacher from middle school also found students' focus problems from the homework. He found some of the knowledge that the students should have understood in the online lessons turned out to be problems in their homework. He started setting multiple interaction events to ensure the students concentrated on the lessons. Other teachers also made similar adjustments to increase interaction, like doing roll-call in the middle of the lesson time, watching students' chat history or asking the students to sign in for a limited time in class. These measures worked well according to these teachers.

Checking students' notes and homework

Teacher 3 also emphasised the difficulty of interact with students and the lack of understanding of their knowledge level in online studying. However, she found an effective way to solve this problem: to check the students' notes. After the online lessons, the students needed to take photos of their notes in their textbooks or notebooks and send them to the teacher, so the teacher could interact more with the students through their notes and see how well they had mastered the lesson input. Teacher 3 also found that this encouraged the students to listen more carefully during the online lesson.

Teacher 4 also found effective way around this problem, which was to mark the students' homework at the night before the lesson the next day. He thought that through this, you can have a better awareness of the students' knowledge level; thus you can adjust your teaching the next day based on this.

Reward and punishment system

Teacher 2 adopted a reward and punishment system to encourage the students; it based on students' classroom performance and homework. This strategy also induced positive effects on online learning. She tallied the weekly points to reward and punish students, encouraging those who performed well and criticising those who did not.

I was pretty strict about the punishment system. I would call (the student) the name and ask him to stand up in front of all the students and invite the parent to communicate through the camera.
(Teacher 2 interview/13.8.2020)

In her description, this work combined with her home visits. Even during the epidemic, she visited the homes of the particularly naughty children to find out their situation and problems; she tried to communicate with the children in person and with the parents. She was very proud to tell me that the results of the home visiting were very good and that some children who had difficulties in online learning did much better after such home visit.

Individual teacher differences

Many students report different attitudes or motivations in different subjects or teacher's lessons. Some courses they were more enthusiastic about joining. Over half of the students said they would prefer to join the courses because of the teacher. A teacher's patient explanation made them more serious in studying and more concentrated.

I listened more carefully in Chinese classes in the online studying period, because I was kind of more like the Chinese teacher. Because on one occasion, I couldn't understand some knowledge in the Chinese class, so the teacher came to me after the class and tutored me individually. I just felt she was exceptionally patient. (Student 3 interview/14.7.2020)

Besides that, several students also said they were more motivated to learn in the online lessons when the atmosphere was lively and interesting. It was again mainly related to the personal style of the teacher.

Sometimes, to say something that can ease the classroom atmosphere, um, that is to say, from frozen air to a thrilled style, like that kind of relatives meeting, say something, something about life, yes. Um, then it is, um, you cannot help but just feel this teacher is quite good, and then the teacher will start the teaching about this and that, but then you are also willing to learn. (Student 1 interview/13.7.2020)

Several students also expressed the view that the different studying attitudes during online learning were related more to the subject's characteristics of; they felt the teacher was almost irrelevant. Some classes were more enjoyable, and in these classes, they were more motivated.

Interestingly, two teachers mentioned a situation where the teachers could promote the motivation of the left-behind children. The left-behind children were more willing to follow the learning requirements from the teachers rather than their parents, especially when they encountered a teacher they liked. Although overall student motivation and class participation decreased during online learning, the left-behind children could still be motivated by a teacher that they liked, as this teacher makes clear:

A boy in our class who was looked after by his grandmother, and then he often did not attend the online lessons. The class teacher constantly communicated with him but it changed nothing. Oh, but he is quite active in the Chinese lessons. He basically attended all the Chinese lessons. He

liked the Chinese teacher more, so, he was more willing to have the Chinese lessons. (Teacher 5 interview/15.8.2020)

School's effective organising

The school was the primary organiser of online education. The teachers interviewed reported that schools' training on conduct of online lessons and related software gave them great help. The school also provided the equipment for teachers who need it for online teaching. Then the teachers started teaching via live broadcast online classes in empty school classrooms. The school equipped the classrooms with professional live-streaming types of equipment.

The school also provided us with the equipment. Thus we could teach by live stream in the school classroom. In this way, the teaching outcome would be better. (Teacher 3 interview/16.8.2020)

About half of the interviewed teachers mentioned that subject groups arranged by the school were beneficial in the online classroom. In these groups, teachers in the same subject area would get together to discuss the content of the online lesson, share lesson materials and resources and discuss their experience in organising students' learning activities. The experienced teachers would share with other teachers if they found better ways to online teaching, and this could greatly help and benefit other teachers.

The older teachers had rich experience. We often make voice calls, and he helps me a lot. (Teacher 5 interview/15.8.2020)

This result chapter summarised the findings in this study and illustrated with teachers' or students' comments. All schoolwork and activities were transferred to an online mode, including teaching methods, homework and exam. Students think that online learning is extremely difficult and

dissatisfied with the results of learning. Teachers also report various problems encountered in online education. Still, the teachers actively tried and found effective improvements. The next chapter will be the discussion of these results.

Chapter 6: Discussion of Study 1

This chapter discusses the results of study 1, consisting of four parts. The first part expounds on the significance of the research background and context. The second part discusses the classroom preparation and premises of online education. Then next section is about the problems and challenges encountered in online education, and finally I deal with the lessons learned by the teachers and institutions in online education and effective improvement strategies.

6.1 Significance of the research context

This study aims to understand the experiences of online education in primary and secondary schools in China in the context of the epidemic and their perceptions of online education. It is a unique opportunity because it is a direct comparison between school classroom and online provision of almost every aspect of education. This was a nationwide transformation involving all schools, all teachers and students, all subjects and all learning activities. In the participating schools in this study, it lasted one semester (after the semester was over, almost all Chinese schools returned to regular schooling). Through in-depth student interviews, teacher interviews, and online course observations, a vivid picture can be gained offering an insightful understanding of the challenges in the forced online education during pandemic.

As discussed in the literature review chapter, the majority of the research on education during the pandemic has been conducted at university level. Few reports were on primary and middle schools' online education, possibly because of the difficulties of gaining access to primary and middle schools and recruiting participants during the pandemic. Also, a majority of the online education studies adopted a quantitative approach, whereas few of them adopted qualitative methods to explore teachers'

and students' feelings and attitudes towards online learning. The findings of this study reveal that students' motivation and engagement significantly decreased in online education, and this is in line with the studies mainly based on surveys (Anwar, Khan, and Sultan 2020; Muthuprasad et al. 2021).

6.2 Preparation for online education

First of all, it is undeniable that hardware facilities such as internet and equipment are the primary conditions for online education to conduct. More than 35 million students studying are studying in rural Chinese primary and middle schools (Chinese National Bureau of Statistics, 2019), which are relatively underdeveloped areas in China. Fortunately, in the rural primary and secondary schools where this study carried out, only a small number of students experienced problems with inadequate equipment or lack of internet access. The government and platform companies also helped the problem of internet access. Therefore, the issue of network and equipment is not a key challenge in the context of online education in this study, but the small number of underprivileged children should not be ignored. It is still a worrying situation in some of the interviews, for example when teacher said "there are two children in the family but only one mobile phone, so only one child has access to the internet for lessons". In contrast, more network and device problems were reported in developing countries in Central and South East Asia. In Pakistan, Anwar et al. (2020) report hardware and network issues are the biggest problems in online education. Students in rural India (Muthuprasad et al. 2021) and the Philippines (Moralista and Oducado 2020) also view the lack of a stable network as the biggest problem in online education. It is worth noting that these studies are all in higher education with capable adult students and predominantly urban-based universities. At the same time, the issues of equipment and networks are likely to be more acute in widely distributed primary education.

Secondly, the problem with online education lies in preparing online education courses and contents. The difficulties reported by the teachers in this study were mainly related to the lack of proficiency in information technology, their inexperience in online teaching and the overwhelming workload; their

working hours were often more prolonged than in face-to-face school teaching. The visual burden and increased stress on teachers were also widely reported. A study in Turkish universities listed IT problems as one of the five most significant difficulties in online education (Doyumgaç, Tanhan, and Kiyamaz 2021). Research in the Philippines also found that teachers' lack of training related to online education was the major challenge (Moralista and Oducado 2020). Basilaia and Kvavadze (2020) also report an increased workload for teachers in online education. The forced shift to comprehensive online education in the context of the epidemic was indeed a challenge for the education community in such a global public health crisis. Still, teachers later reported that the technical difficulties were mainly at the beginning, with the pressure easing as they became more proficient in the subsequent process. The education system also began to reflect and build online educational resources after such a time. For example, in China, after the local epidemic had ended and traditional school teaching had fully resumed, the educational authority was still pushing ahead with the construction of an online course resource platform. This situation can be viewed as a push for online education resources forced by the epidemic, and it can be expected that in the future, such online education resources will also better facilitate the development of online education rather than just in emergency situations.

6.3 Challenges in teacher-student interaction

The next issue was central to the teachers and students interviewed in online education: communication and interaction in the classroom. Both students and teachers stated that the interaction between teachers and students in online courses is essential and simultaneously the biggest challenge. In teachers' eyes, it was almost impossible to get students' reaction in an online classroom like at school. In face-to-face school teaching, the teacher can tell how well the students have mastered the knowledge simply by asking questions, listening to their answers, and by actions such as nodding or even by their eyes and facial expressions. From their responses, the teacher could tell whether the students had questions and whether further explanation or examples were needed. It can make it easier for teachers to adjust the pace and progression of teaching; it is also an important way to estimate student engagement in the lesson. Pianta et al. (2012) report that the nature of teacher-student interaction in the classroom is an essential reason for students' classroom engagement; good interaction can facilitate students' engagement and thus improve their learning achievement. Hall and Walsh (2002) elaborate on the

socio-cultural perspective that teacher-student interaction can facilitate the creation of effective learning environments and thus contribute to students' development: “in the creation of effectual learning environments and ultimately in the shaping of individual learners' development” (p187). However, in online courses, many teachers could not access their students' status, as they could neither hear the students nor see them. Teachers did not know whether students were listening to the lesson or doing something unrelated to studying.

Some teachers and students reported delays in the internet, which also reduced the effectiveness of teacher-student interaction. Students also said that they were unable to ask the teacher questions and solve problems when they needed help due to the lack of teacher-student communication in the online classroom. The best time to solve problems missed, and it was rare for students actually to consult teacher after class. This situation becomes one of the dominant reasons for lowering students' motivation and increasing their sense of helplessness. Kiemer et al. (2015) report a significant decline in student interest and motivation in science, technology, engineering, and mathematics (STEM) subjects at the secondary level, with teacher-student interaction decline as a major reason. In their study, the students who lacked constructive feedback from their teachers demonstrated a significant decrease in perceived autonomy, competence and intrinsic learning motivation. Such results lead to knowledge problems that can also negatively influence students' difficulties in subsequent homework and learning.

Furthermore, it is evident from the results of this study that students had acute perceptions of their learning environment and teachers' supervision. There is already convincing evidence that the quality of the classroom environment is a significant determinant and influencer of student learning (Fraser 2007; Conroy et al. 2009). The interviewees also reported that the presence and proximity of teachers also provided a positive learning environment; however, the lack of a learning environment in online education harmed their motivation to learn, which undoubtedly affected their academic performance. This view was also very common among the students; several of them explicitly stated that seeing their peers studying in traditional classes at school gave them an atmosphere that they should study too, whereas seeing other students skipping classes and doing non-study related things in online classes made them even more reluctant to study. This result aligns with Pickett and Fraser (2010) that the learning environment is a good predictor of students' academic achievement and attitudes toward learning. It suggests that we need to pay more attention to creating classroom environments in online

education. In the future, even in school education, attention should be paid to creating a learning environment and its contribution to students' academic performance.

Not only did the peers and teacher's presence matter, but students' mutual help and teacher's support were also viewed as a critical challenge by the students interviewed. Many students reported that the lack of help from peers and teachers in online education significantly reduced their motivation to learn. Peer help reducing in online education was associated with less interaction between students, as the students interviewed mentioned that "at school, you can ask a classmate as soon as you turn around, but not in online classes (Student 2 interview/14.7.2020)." Teacher help is often accompanied by emotional support, which gives students the courage to face difficulties in their studies. But in online education, the teachers reported the inconvenience in individual communication with the students. The students also claimed that they had less communication with the teachers during online learning. These findings align with research in peer-assisted learning that peer help could solve student's problems, benefit student's positive attitudes and motivation in learning, and improve their academic performance (Damico and Watson 1976; Cortright, Collins, and DiCarlo 2005). The results are also in line with research on teacher showing that teacher support could increase students' engagement and motivation (Ruzek et al. 2016; Hattie 2008) and reduce students' disruptive behaviour (disruption of classroom discipline, truancy) (Shin and Ryan 2017). The reduction of help from peers and teachers in online education has a negative impact on student motivation and learning outcomes. Therefore, when considering online education, we should also be aware of the need to establish such students' mutual support mechanisms through the internet.

Reduced interaction with and supervision from the teacher, lack of learning atmosphere and reduced help were commonly believed by students as key reasons for their lack of motivation in online courses. The decrease in motivation was accompanied by decreased in-class participation and being more easily distracted during online classes. The results of student interviews and online classroom observations also revealed that many students barely engaged in the lesson but played games or did other things unrelated to their studies. In a face-to-face school classroom, it is relatively easy for the teacher to monitor or correct students doing something unrelated to the class, but they could hardly know if a learner was, for example, browsing a website during an online lesson. After class, students may not study long enough or have enough discipline to do their homework; hence the increase in homework

plagiarism, leading to a decline in academic performance and making knowledge acquisition more difficult.

From these results, w students' perceptions, teacher interviews and observations of online courses complement each other, offering a vivid and worrying picture of the interpersonal relationships deficiency in online courses. Baker (1999) reports that children can clearly perceive teacher support in classroom environments as early as grade 3, and this is closely correlated with students' satisfaction. A study of online higher education in the context of the Indian epidemic also suggests that the lack of human contact and communication interaction is the most crucial barrier to online classes (Arora and Srinivasan 2020). It can be seen that the maintenance of good interpersonal contact and relationships in online education is decisive for the success of online education.

In conclusion, a these findings constructed a vivid picture of teachers and students struggling under the conditions of online classes, leading to a significant reduction in the learning outcomes. Under the epidemic, schools and teachers were forced to transform the usual school education into unfamiliar online education fully. But the schools, teachers and students in the context of this study were hardly prepared for online education before the pandemic. Almost everything happened in an emergency from equipment, network, information technology, and related software preparation. Eliminating these difficulties solves the most fundamental problems and provided the preliminary conditions for networked teaching. Schools and teachers had no experience with the model of online education and are like waded across the stream by feeling their way. Apart from the few teachers who (after poor initial experiences) insisted that the students turn on the camera in class, most students in online classes can only hear the teacher's voice or see the teacher's slide on the computer screen. It is almost impossible for teachers to interact with students. No other students are around; the students lacked a conducive learning environment. Under such circumstances, most students' attention is gradually dispersed. Some students use their mobile phones to surf the internet or do other things unrelated to the study. Some students play with the toys or small objects at hand or even put their mobile phones away. The teacher, at this time, did not know what the students are doing, and insists on lectures. In this way, the participation and motivation of many students significantly declined.

On the other hand, teachers lack timely feedback from students in the teaching process. Sometimes, the teacher's teaching work needs to adjust the pace according to the student's understanding or ability. Timely feedback or direct suggestions from the students can help the teacher reasonably adjust the class rhythm at an appropriate time. In the results of this study, many students said that sometimes they could not understand some lesson input. Also, they could not communicate with the teacher to give feedback promptly, resulting in a further lack of motivation and ability to continue to understand. As a result, students' sense of participation in the classroom decreased, leading again to a decline of learning motivation and so on in a vicious circle of demotivation. With less learning participation and less knowledge acquisition, students naturally have a deplorable attitude towards online classes and obviously feel that they can only learn a little knowledge. Teachers can also feel this from students' assignments and tests. But it is difficult for them to make significant improvements due to the unique nature of online classroom education.

6.4 Effective adjustments and experiences

According to the study's results, teachers are also aware of the problems in online learning and have been continuously improving this situation. From the teachers' experience and the adjustments that proved effective, we can see that teacher-student communication is vital in online education.

Having all students turn on the camera can increase the interaction between teachers and students in the classroom. When both the teacher and the students have the cameras on, so the teacher can more readily ask the students questions, and the students can also directly respond, such as raising their hands, participating in the class, answering the questions, and interacting with the teacher. In addition, the teacher can see the status of the students through the camera, see whether the students are reading books or opening their mouths to read according to the teacher's requirements so that the teacher can increase the supervision of the students. From the perspective of lower-grade teachers, this method greatly affects relatively young students with poor self-control. Having more interactive points in the online lesson and checking students' homework and notes these approaches were all trying to promote teacher-student communication and interaction. Students also feel more supervised or helped by

teachers. For example, in online courses, students know that the teacher will interact with students at irregular time points, and by answering questions, commenting or some other ways, students will find such classes more vivid and are more willing to participate in the class. At the same time, some students who want to do other things in online classes will have to take this into account, the fact that the teacher will know that they are not listening carefully at this time, not participating in the class. Checking students' notes can have a similar effect. Because the teacher checks the notes, students know they need to listen carefully in class to complete them properly. Teachers can also check students' notes to find out their learning problems, answer students' questions in their notes, and adjust their teaching according to these situations.

The more engaging teachers also hinted at the buffering effect of good interpersonal interactions on unfavourable conditions in epidemic online learning. Researchers also state that the biggest problems in online classes in Pakistan include a lack of face-to-face teacher-student interaction, reaction time and a lack of a traditional social environment within the classroom (Adnan and Anwar 2020). The negative consequence of lack of interpersonal communication is that students generally perceive their online learning outcome to be poor, and teachers perceive their students learn less knowledge, with both teachers and students dissatisfied with the results. This situation did not only affect the semester; in the new semester (according to some following up interviews in the new semester), teachers also spent a considerable time reviewing their previous knowledge in order to teach the new knowledge. The results of such adverse effects are far-reaching. Therefore, the use of technology as well as pedagogical methods to ensure smooth communication between teachers and students in online education is essential.

A positive teacher-student relationship can also increase students' participation and motivation in online classes. In the context of online education, students generally lack motivation for class and learning, but if the teacher is a teacher that the student likes and has a good relationship with the student, the student will also be interested in the class and the subject being taught. Studies have shown that a good teacher-student relationship can improve students' classroom participation and motivation, contribute to students' learning emotions, and improve their academic achievement (Roorda et al. 2017; Cornelius-White 2007). The findings of this study are consistent with such results. There are many reasons that middle school students say like their teachers in this study, including that some teachers'

classes are relatively lively and interesting, some teachers have a strong sense of responsibility to students and will personally tutor students, and students like some teachers because they are very patient. From the feelings of these students, it can be seen that in the case of online teaching, these excellent characteristics of teachers will still be felt by students and will become the reasons why students like teachers or courses to promote students' learning. The finding suggests that in the context of online education, the relationship between teachers and students can still improve the efficiency of online classroom learning. Teachers can increase students' learning participation and motivation through their own curriculum design, having a responsible attitude towards students, and helping students behaviours.

In summarise, the interpersonal relationships and interaction play a vital role in facilitating effective online learning. In practice, it is highly recommended to turn on cameras so that teachers and students can see each other's expressions at all times for better classroom interaction and feedback. A lively classroom and positive teacher-student relationship can also improve students' engagement and motivation in online learning. Practical means to promote teacher-student and student-student interaction will be suggested in the next chapter.

Chapter 7: Conclusion of Study 1

7.1 Limitations

The specific context of this study should be acknowledged. It was carried out in two rural town primary and middle schools in China. Compared with schools in UK, Europe and even the larger cities in China, rural town schools have a relatively large class size (about 50), and rural parents are less likely to be able to help their children in their studies. The rural town surveyed is in an economically middle-ranked province; the digital infrastructure may be significantly better or worse in other parts of China. Furthermore, the 18 participants make up a tiny proportion of the whole, and although every effort was made to win the confidence of participants, the teachers may still have felt constrained in their responses by the hierarchical nature of their institutions and the learners by fear of parental censure. Three parents were interviewed in the pilot stage, but they did not offer meaningful information about the online education. Thus the parents were not recruited as participants in this study. One grandparent also directly stated that she did not know much about the knowledge her granddaughter learnt in middle school; a big amount of students are left-behind children in the rural schools. Maybe, this is also because some of the parents in the rural area were busy at working, and do not paid much attention about the students studying. However, the head teachers of the two participant schools could be participants. This is a limitation of this study. The head teachers could provide the institutional challenges and experiences these schools had in the pandemic online education.

The data collection time point should also be a limitation for this study. The data of teacher and student interviews in this study were collected after the end of the semester. Although such a collection time point can be a good way to obtain comprehensive evaluation of the learning effect of teachers and students after a whole semester, such a time point can potentially ignore the problems encountered by teachers and students in the early stage of the online education semester, for example, teachers may not be familiar with the mode of online education classes or the operation of online education platforms.

Such difficulties may be gradually overcome after a period of exploration by the teachers, so the early troubles were not mentioned in the interviews after the whole semester online education. This constitutes a limitation of this study, and future studies need to take into account the time point at which data were collected and the different conditions and problems at different stages of the development of the matter.

Another limitation of this study is in the data collection of classroom observations. The study recruited participants and officially began collecting data two months after the online education term started. Some of the class observations were conducted in the middle of the semester and some were made at the end of the semester. But there was no observation of the early period of the online lessons. At that time, the research was still in the initial stage of teaching online lessons. If we can observe the online class early in the beginning and compare it with the middle and later stages, we can more intuitively find the changes of online class and the comparison of some improvement measures taken by teachers, so as to better reflect the research results.

7.2 Implications for pedagogy

Despite these limitations, the study provides strong evidence that learners' motivation significantly decreased in forced online learning during the pandemic, which likely diminished their academic achievements. The findings of this study also highlighted the importance for motivation of teacher-student interaction and students' sensitivity to study atmosphere. These findings could not only benefit the development of online education but also contribute to promoting students' engagement and motivation in face-to-face school education. In light of these weaknesses, the following recommendations can be made for future periods of enforced online education:

(1) To improve teacher-student interaction, students should be required to turn on their cameras unless it would interrupt their WiFi connection. The teachers should make extra efforts to communicate with students directly, for example, by checking their lesson notes and reading their homework more thoroughly and quickly than usual.

(2) Students can be encouraged and, if necessary, helped to create a learning community together. The teachers can initiate study groups and make sure all the students have peers to study and communicate with. The teachers are also suggested to join the study groups weekly or monthly to interact with the students and understand group communication situations.

(3) The schools need to find ways to reduce teachers' workload and give the teachers more time to interact with individual students. Teachers' work in other areas unrelated to teaching should be reduced. Technique support or other forms of help to the teacher's work should be provided. The vulnerable student groups, such as the left-behind children, especially need more direct help from the teacher.

7.3 Areas for future research

This study found that reduced teacher-student interaction in online education can negatively impact students' classroom participation and motivation. Such findings were made in qualitative studies. Subsequent quantitative studies can be conducted to explore whether there is a quantitative relationship between the increase of teacher-student interaction in online education and students' academic emotion, class participation, and motivation. Was increased teacher-student interaction statistically correlated with these factors? In addition, what form and content of the interaction will have an impact on online education? The teaching method of online classroom also seems to have an impact on students' results. What kind of interactive way can bring better learning results? What platform features can these learning effects be achieved? This study does not focus on the media, platform, and the impact of course design on online education. Does the function of the platform or the design of the course also influence the outcomes of online education? Do these factors also affect students through teacher-student interaction? These are also questions worth exploring.

According to the students, the students are sensitive to the learning atmosphere. The learning atmosphere of online education has a great impact on their participation and motivation. This atmosphere has the influence of both teachers and students learning together, as well as the influence of

students helping each other. Under the background of online education, how to establish a good learning atmosphere to improve students' learning output is also a problem worth further exploration.

In this study, it is found that teachers' care and personal guidance to students and positive teacher-student relationship can offset the negative effects of insufficient student participation and motivation in online classrooms. In the context of online education, how is the relationship between teachers and students constructed? What factors will affect the construction of teacher-student relationship? These areas will be worth exploring in the future research of online education.

Chapter 8: Introduction to Study 2

For the past two or three decades, research on TSR encompasses numerous studies that focus on the influence of TSR quality on student outcomes (Hughes,2012). The beneficial effects of positive TSR have been reported in multiple qualitative and quantitative research, meanwhile summarised in meta-analyses like those by Cornelius-White (2007), Roorda et al. (2011) and Lei (2017). Cornelius-White concluded more than 100 studies in the UK, USA, Germany, Canada and Brazil, containing about 15000 teachers and 36000 students for nearly half a century. A review study involves about 13000 students from the 1990s to 2010s in Europe, Asia, North America, Australia and Africa (Roordaet al., 2011). Lei et al. (2017) identified 65 primary studies with about 60000 students; their results provided strong evidence linking teacher support and students' academic emotions. All these reviews indicate a strong association between positive teacher-student relationships and student (“learner” might be a more suitable appellation due to the vast application and report of TSR effects, whereas to be consistent with the universal use of teacher-student relationships, this study will adopt “student” to represent all the learners) engagement and achievement. Moreover, by averaging effect sizes across factors in student, home, school, teacher, curriculum, and teaching approach, Hattie (2008) demonstrates that factors related to teachers have the highest effect on learning achievement.

This study will explore the nature of TSR from both teachers’ and students’ perspectives and try to identify the factors that can bring about positive relations. The chapters of study 2 contain an introduction, the research context in Chinese primary school, a literature review about TSR and the methodology for the research, the finding, a discussion and final thoughts of this thesis. Hopefully, it could contribute to a deeper understanding of the nature of TSR, the construction of a positive TSR and benefit the exploration of a better solution for educational inequalities.

Chapter 9: Research Context of Study 2

9.1 Chinese Educational System

The explanation and illustration of the educational system come from my experience; specific numbers and structures could be referred to in official government documents (Ministry of Education of the People's Republic of China, 2010). The primary educational system in China is different from Europe and America in some aspects, including teacher assignments, class size, teacher-student communication and classroom learning activities. Generally, K12 education in China contains three stages: six-year primary school stage (student age from 7-12), three-year junior middle school (student age from 13-15) and three-year senior middle school or high school stage (student age from 16-18). In schools, different subjects are taught by different teachers. For example, suppose a primary school class have subjects like maths, Chinese, English, science, music, painting and physical education (PE). In that case, this class will have 5-7 specific teachers for each subject, i.e., one teacher per subject per class. The National Teacher Certifications (NTC) teachers hold also has specific subject and educational stage. Due to the culture and density of the population in China, almost all the primary schools are public/state schools (about the reference to public schools, I tried but did not find a proper citation, whereas the same description is reported in Zhu et al.(2014) also according to the author's experience). The class size in state primary schools is generally 40-50; in middle or high school, the class size is even bigger. In the classes, the teachers have to take serious care of classroom management to ensure the teaching activities can go well. Knowledge and academic achievement are extremely important under educational policies and social culture. Students generally do not have much chance to talk with the teacher individually. Students' lesson procedures in the classroom include teacher lecturing, group discussion, student presentation and self-learning. At the same time, teachers are the organisers of all the lessons and are responsible for the academic outcome. They spent considerable time lecturing and will direct the whole class discussion at some points or stages.

The ‘class teacher’ would also be a vital identity worth deliberating in the context. In Chinese primary schools, the maths and Chinese teachers will stick to one class for years. Generally, the Chinese teacher will be responsible for the management of the class, including all the affairs (like morning inspection, exercises between classes, classroom cleaning by students, festivals and educational activities) other than knowledge studying. In the Chinese context, they were called ‘class teachers’ with special responsibilities, and will be present in the classroom with the students from morning to after school in the afternoon, except for the lessons in other subjects. Thus they have considerable time to get along with the students to construct strong relationships with the students; they will be the participant teachers in this study.

9.2 Classroom environment and context

In my experience, Teacher-Student Relationships (TSR) in Chinese primary schools are greatly influenced by the unique cultural context; the classroom environment displayed is also distinctive compared with other cultures. At school, the teachers, especially class teachers, have strong authority when it comes to management affairs about the class. Students are obedient and would generally follow the teacher’s orders. The teachers are also responsible for taking care of the students, like “students’ parent at school”, even though it is not based on the professional rules but under the social conscience. I think that this phenomenon originates from the TSR in traditional Chinese culture, like the wisdom says, “Being your teacher for one day, then like your father for your lifetime”. Nowadays, this traditional concept does change a lot with the educational modernisation, but we can still catch a glimpse of its influence in the classroom.

The communication mode in Chinese primary classrooms is also in line with the environment. Generally, students may not speak in class unless they raise their hands and then called upon by the teacher; otherwise, they will be treated as rule-breaker during the course and get punished orally by the teacher. Guo et al. (2018) also reported the strong authority teachers have. Partly due to the big class size, students are less likely to initiate communication with the teacher unless they have questions that

could not solve by themselves. Some students might be afraid to start a talk with a teacher, since most times, the teacher will talk to a student individually only when they did something wrong in the homework or studying activities. If the student already has difficulties in communicating with the teachers, they will be more likely to get less attention from the teachers and unable to construct positive relationships with the teachers.

In his substantial body of work, Hofstede (1986) claimed that significant cultural differences exist between cultures. For example, many Asian countries (including China) are classified as “collectivist societies” compared to the “individualist societies” in western culture. From his description, in individualist societies, individuals have more freedom, and in the classroom, learners may feel more willing to communicate with the teacher freely. In contrast, collectivist societies emphasise strong loyalty within a larger group, and so, also considering the large class size in Chinese schools, students may be less likely to initiate a free talk with the teacher. Even though some of his views are controversial (Fosen 2016), his ideas are relevant to Chinese primary schools.

9.3 Special student group: left-behind children

In the context of China, the educational phenomenon that should not be ignored would be the “left-behind children”, the special student group that exist in modern China’s urbanisation. The universality and proportion of left-behind children population make this phenomenon of great moment in both educational research and practice in China. The population of the left-behind children is about 103 million, constituting 20% of all Chinese children in the whole nation (United Nations International Children's Emergency Fund, 2017), which means, this phenomenon directly influence every four children out of ten. The distribution of left-behind children contains 31 provinces/administrative regions, covering 95% of the national territorial area (National Health and Family Planning Commission of the People’s Public of China, 2017).

Left-behind children mainly come from the migrant population in China's urbanisation process (beginning in the 1970s, known as the reform and opening-up policy). According to the United Nations (2018), China is one of the typical countries with the fastest pace of urbanisation. In order to access the higher incomes and vast numbers of employment opportunities, many rural labour forces swarm into cities participating in city construction. However, a large number of adolescents and children could not migrate with their parents for various difficulties like unstable living situations, finance, and the residency (Hukou, in China) policy. Besides relatively insufficient resource matching and limited urban schools' capacity, most of their children remain in rural schools, living separately from their parents during term time or even permanently.

The separate states make the parents unable to provide sufficient emotional support and help with their children's studies, which brings disadvantages in various aspects of the children's growth (Edillon 2008; Liu et al. 2015). The left-behind children are in lack of parental care and nutrition (Tan et al. 2018), and they still need to deal with the academic challenges in their studies and pressure from school and peer competition, especially in junior and senior secondary schools. Compared with normal students, left-behind Children have shown more psychological problems, such as inferiority, lack of self-confidence, loneliness, depression, emotional instability and social anxiety (Zhao, Liu, and Shen 2008; Sun et al. 2010; Liu et al. 2015; Wu, Lu, and Kang 2015). There were also more behaviour problems and higher drop-out rates observed in left-behind children, especially in areas with lower socio-economic status and in ethnic minorities in China (Liu, Fan, and Shen 2007; Lu et al. 2016; Yi et al. 2012). The educational quality in ethnic minority areas in China is disadvantaged mainly because of the lower economic development and behindhand social consensus on education, like other rural areas. Decades ago, gender discrimination also existed under the obsolete social consensus (parents are more willing to let the boys get well educated, not the girls). At the same time, gender discrimination has been dramatically eliminated by high-speed economic development and the helping-the-poor policy. There are also ethnic minority policies that ethnic minority students could have additional marks in the national or local entrance examinations to high schools or universities. These policies have basically excluded the disadvantaged situations of gender and ethnic minority. The left-behind children could be the adverse consequence of economic development and labour mobility, even though urbanisation has changed the development and social consensus dramatically.

The Left-behind Children have already been a large social-economic group in the current China society; there is a sustained and ever-increasing focus on their living conditions, environment and well-being. In academic research, “Left-behind Children” is a controversial topic in numerous subject areas, including Sociology, Public Health, Childhood and Adolescent Development Psychology (Tan et al. 2018). Current research findings about left-behind children are worrisome but also highlight the importance of TSR as a protective factor (Guo et al. 2015; Liu et al. 2015). However, little is known about how TSR is influenced by the teachers’ and students’ perceptions of it in the studying activities; these are the focus of this research.

Quantitative research investigating the TSR situation from both teacher and students’ perspectives would help us understand the relationship comprehensively. Following in-depth qualitative study exploring the construction of effective TSR in classrooms will also potentially benefit the future design of educational interventions targeting disadvantaged groups like the left-behind children. As mentioned in the Introduction, my own interest in TSR derives from my teaching experience in the rural Chinese school, where I noticed the significant beneficial outcomes of positive TSR on my students, especially left-behind children. From my point of view, left-behind children urgent need a more positive TSR, which could benefit them from both academic achievement and academic emotions (more details will be discussed in the literature review about TSR). Even though left-behind children group are not the whole target population in this study, they constitute an important group of students in Chinese classrooms. This situation is why they are discussed in this context part. In a word, the unique context of left-behind children in Chinese classrooms will not only underline the importance of TSR research but also make the exploration in this study more meaningful for empirical groundings.

Chapter 10: Literature Review of Study 2

Introduction

In this review, I concluded the beneficial outcomes of TSR, the contribution from teacher and student aspect, the reported effecting pathway of how it affects motivation and engagement the theoretical foundations of the relationship, and the associated teacher factors. These are still a large number of aspects associated with TSR, like the measurement of it, the educational inequality of TSR in different student groups that cannot be fully discussed as space forbids. The more detailed branches and controversy are valuable parts that should not be ignored.

10.1 The importance of TSR

10.1.1 The unique and unequalled effects of TSR

Improving students' learning outcomes has been central to educational research for decades, with innumerable interventions designed to achieve this purpose. It has been reported that, among these interventions, high quality of teacher-student relationships (TSR) is one of the most influential factors that contribute to students' learning achievement (Hattie 2008; Fosen 2016).

Horizontal comparison between TSR, parent-child relationships and peer relationships also highlighted the distinctive effects of TSR on students. Studies focusing on the influence of parent-child

relationships on children's success support the prospect that motivation, academic emotion and self-concept could be the pathways through which beneficial effect was produced (Connell and Wellborn 1991; Gottfried, Fleming, and Gottfried 1994; Pribyl, Sakamoto, and Keaten 2004; Zee, Koomen, and Van der Veen 2013; Bosman et al. 2018). Research also shows that students' feeling of emotional and social support from peers is related to their motivation, academic achievement, classroom engagement and self-concept (DuBois et al. 1992; Harter 1996; Martin and Dowson 2009; Lee and Bierman 2015). However, some previous studies have emphasised that, compared with others, the teacher-student relationships (TSR) would be the most crucial (Ban and Oh 2016; Meehan, Hughes, and Cavell 2003; Hajovsky, Mason, and McCune 2017) according to its close association with educational activities. Based on decades of research, teachers could influence students' motivation via multifarious approaches, including classroom studying activities (e.g., (Rosenholtz and Wilson 1980; Way 2011), curriculum arrangement (e.g., (Renninger et al. 2014) and rewarding strategies (e.g., (Ames and Ames 1984).

From the extensive context of effectiveness research in education, synthesised research about TSR does provide insights. Hattie's comprehensive synthesis of over 800 meta-analyses of research on what works in education, including 52,637 studies counting 236 million students, mainly in Europe and the USA, exhibits highlight the effects of TSR on study outcomes, compared with other elements in education (Hattie,2008). From his conclusion, 95 % of the educational initiatives could generate a beneficial effect on studying activities and outcomes. Thus the question now is not what effects, because most interventions do, but what factors have above-average potentials for students and studying activities. Compared with factors in teacher, student, school, family, curricula and teaching strategies, Hattie reported that factors in the teacher category have the highest effect on academic achievement (Hattie,2008).

Nevertheless, meta-analysis as a method has been criticised for combining and comparing studies that are different from each other for a long period; it is like comparing 'apples and oranges' (Hattie,2008). Popay et al. (2006)claim that meta-analysis is to adopt unique statistical techniques to synthesis the findings of vast studies and generate a systematic quantitative assessment; it could be treated as a conclusive literature review. Similarly, Hattie rejects the argument that you cannot compare two studies that are not exactly the same (Hattie,2008). He stresses that no two studies will ever be the same; instead the 'only question of interest is how they vary across the factors' (p.10) that are being

investigated in the respective synthesis. Likewise, Popay et al. (2006) draw an analogy that compares a systematic review to ‘a survey of single studies’, single study could be regarded as one participant in many respondents of the survey (p.10).

Even though the respondent is different from one another, the survey question could get a preferable answer by many respondents compared with the individual participant. Hence, the synthesised results from meta-analyses research by Cornelius-White, Hattie, Roorda et al. and Lei et al. could generate comprehensive evidence for the significant effects of TSR on students’ success, even though findings vary in individual studies (Cornelius-White 2007; Hattie 2008; Roorda et al. 2011; Lei, Cui, and Chiu 2017). In a word, the beneficial influence of TSR is unique and predominant.

10.1.2 Cognitive outcomes

For decades, studies have revealed a strong and positive connection between positive TSR and a satisfied outcome in students’ cognition and academic achievement. A positive TSR is closely connected with the progress of students’ literacy, including learning the letters of the alphabet, reading performance (Lee 2012), writing quality (White,2013) and grammar learning (Schmitt et al., 2012). It has also been reported extensively that positive TSR could benefit students’ subject learning, including mathematics and science (Telli, Brok, and Cakiroglu 2010; Liberante 2012). Second language learning has also been reported to connect with positive TSR; TSR-promoting programmes could increase students’ performance through higher level of student involvement, motivation and efforts(Henry and Thorsen 2018). It has also been reported that students who participated in positive TSR interventions have a significantly advanced GPA course score (Murray and Malmgren 2005).

The beneficial effects of TSR on students’ cognition also display in transition years (like between primary school and middle school, between middle school and high school). It is reported that students who have a positive relationship with the teachers at primary school could maintain their high level of math skills when they transferred from primary school to middle school. In contrast, students in less positive TSR could see a significant decrease (Midgley, Feldlaufer, and Eccles 1989). More interesting is that students who changed from a low-level TSR to a higher level significantly improved their math

achievement in the transition year to middle school (Midgley, Feldlaufer, and Eccles 1989). These results indicate that TSR could be treated not only as a protective factor for cognitive outcomes at special period but also have a prolonged influence on students' achievement trajectories of further study.

Both researchers and educators have highlighted the critical impact of student engagement on student achievement (Hughes 2011; Green, Martin, and Marsh 2007; Dumford and Miller 2018). It is in line with abundant TSR studies about the positive effects of good TSR on student academic achievement (Roorda et al. 2011; Roorda et al. 2017; Cornelius-White 2007).

10.1.3 Affective/Emotional outcomes

Emotions are an essential component of people's social relationships; they are fundamental to a person's ability to appropriately and effectively regulate and express feelings, help a person achieve personal and academic goals and cope with complex and challenging societies and environments (Saarni 1999; Damon, Lerner, and Eisenberg 2006; Buckley and Saarni 2009). According to Steinfurth et al. (2013), emotions occur at both institutional and interpersonal levels of the teacher-student relationship. They are essential elements of the interactive process, leading to neurophysiologic reactions and behaviour change.

Numerous studies have illustrated the importance of TSR on the affective/emotional growth of children at school age, reasons including but not limited to attachment theory, interpersonal behaviour and relationships, affective outcomes (academic emotions, motivation etc.) and social psychological effects (Larose, Tarabulsky, and Cyrenne 2005; Liu et al. 2015; Bucci, Brumariu, and Moore 2018). Empirical studies also indicate that students with more teacher support have higher positive or lower negative academic emotions. Specifically, students with more teacher support have more enjoyment, interest, hope, pride, or comfort (positive academic emotions) in their academic career; and/or less anxiety,

depression, shame, anger, worry, boredom and/or a feeling of hopelessness about their academic work (negative academic emotions) (Ahmed et al. 2010; King, McInerney, and Watkins 2012; Tian et al. 2013).

The learning process is influenced by the development of TSR both directly and indirectly. Positive TSR would enhance affective learning, which in turn benefits cognitive learning (Eiss and Harbeck 1969; Bloom 1971). It has been reported that positive TSR could significantly improve students' academic achievements through the mediating effects of motivation and engagement (Ahmed et al. 2010; Kim et al. 2013). Students in high-level TSR classes would be motivated to participate in learning activities and the engagement in the activities generates positive feedback in the studying outcome and TSR. On the contrary, negative effect on cognitive learning would decrease students' willingness to obtain and using this information. Negative emotions like depression and boredom are closely connected with a low level of TSR, which could reduce academic engagement in the class (Claessens et al. 2016). Thus it would be a key factor for the teachers to consider effective learning if they want the students to value and apply the materials passed on in class. Osterman (2000) also claims that teacher could play a vital role in satisfying students' requirement for a sense of belonging in the educational environment. Affective learning could be one of the components contained in TSR's theoretical nature and academic practice.

It has been suggested that the state of teacher-student relationships is strongly related to student's motivation to learn (Dörnyei and Ushioda 2001; Opdenakker, Maulana, and den Brok 2012; Haakma, Janssen, and Minnaert 2016). Similarly, a review of 19 studies on student characteristics found teachers reported more closeness in relationships with highly engaged students (Nurmi 2012). TSR quality is more connected with students' engagement than their academic achievement (Wu, Hughes, and Kwok 2010; Thornberg et al. 2017; Roorda et al. 2017). Further studies focusing on the relationships between TSR, student engagement and student academic achievement have also reported that student engagement is the mediator between TSR and student academic achievement (Hughes et al. 2008; Martin and Dowson 2009; Maxwell et al. 2017; Hernandez et al. 2017). These findings indicate that positive TSR could motivate students in the learning activities, which promote their performance in studying.

It would be easier to understand how TSR affect students through motivation and engagement in this way. Fredrick has reported three different classroom engagement types: emotional, behavioural and cognitive engagement (Fredricks and Eccles 2002). According to him, students' emotional engagement could be influenced by students' academic emotions like interest or impatience. Positive TSR could lead the students to have a belonging and fond feeling towards the school, promoting student motivation and behavioural engagement (Skinner et al. 2008). Student's behavioural engagement is reflected actively participating in learning activities, obeying the classroom rules, and accomplishing the school work teacher allocated (Fredricks, Blumenfeld, and Paris 2004). Students would also like to study harder to get the teacher's praise if they like the teacher (Davis 2006; Hygen et al. 2017); their behavioural engagement is motivated mainly because they are trying to delight the teacher they like. They might treat the teacher's attention and recognition as an unusual spirit award (Furrerand Skinner, 2003). Then, their behavioural engagement could naturally lead to improved academic outcomes, i.e. cognitive engagement (Fredricks, Blumenfeld, and Paris 2004). In this process, students are initially motivated by positive TSR, then the interest could be intrinsic, through the enjoyment of studying, they can achieve higher academic achievement (Fredricks and Eccles 2002; Fredricks, Blumenfeld, and Paris 2004; Cote, Bouffard, and Vezeau 2014).

Research has reported that TSR has long-lasting implications in helping students to shape their self-concept (a composite view of oneself), and the role of TSR has been the research centre for the last two decades (Sabol and Pianta 2012). Colwell and Lindsey (2003) reported that TSR could influence the way how students think about themselves (their self-concept), and it is the vital mechanism that TSR have further outcomes. It has also been claimed that TSR from students' perception could affect students' self-concept; when the students felt that the teacher's emotion is full of love, caring, support and accessibility, they will reflect and internalise these positive emotions from the relationship, developing a positive self-concept through self-evaluation (Harter 1999). Empirical evidence also indicates that, in a longitudinal study, positive TSR is associated with students' positive academic and social self-concept (Leflot, Onghena, and Colpin 2010). Similar results are also reported in cross-sectional studies that the supportive teachers in the TSR could have a more beneficial influence on students, especially in students' academic achievement and overall self-concept (Colwell and Lindsey 2003; Demaray et al. 2009). On the contrary, the neglectful TSR and discouraging/punitive teacher would be more likely to make students see themselves as incompetent and unlovable, means they are developing a negative self-concept (Damon, Lerner, and Eisenberg 2006). In a word, the connection

between positive TSR and pleasant self-concept has been firmly claimed. However, what accounts for this connection remains important to be explored.

10.1.4 Social psychology effects

Among the protective factors, a positive teacher-student relationship could be one of the significant aspects since schools, apart from the family environment, are the crucial socialising places that play vital roles in children's growth process and adjustment.

Compelling evidence has suggested that a positive teacher-student relationship could benefit children's development and psychological health (Hamre and Pianta 2005; Buyse et al. 2008; Diaz et al. 2017), especially based on compensatory and protective models of resilience (Zimmerman and Arunkumar 1994). A growing number of studies consider positive teacher-student relationships as compensatory protective support for at-risk students. For example, Hughes et al. point out that, from the perspective of academic at-risk learners, a supportive teacher could help them improve their engagement and participation in the classroom, as well as confidence in their academic abilities, with a higher academic achievement as an outcome (Hughes 2012). Classes with positive TSR quality have fewer student misbehaviours (like disruptive talking, being silly in class, harassing classmates, giving verbal insults, defiance, smoking and hostility) and school bullying; in addition, students are more likely to prevent bullying through protecting the victim and telling the teacher where there are positive TSR (Troop-Gordon and Kuntz 2013; Jungert, Piroddi, and Thornberg 2016; Aldrup et al. 2018). Moreover, comparative research shows that children in a close relationship with a teacher have dominant advantages in development compared to peers lacking in such a relationship.

10.1.5 Beneficial effects on teacher wellbeing

Numerous studies focus on the importance of TSR on students' development. Except that, TSR also have a significant effect on the teacher well-being even though it has been neglected for a long time. TSR is important for teachers' wellbeing (Friedman 2000; Kyriacou 2001).

Generally, people think that teachers' relationship with their students could offer teachers an internal award, which could be the meaning and motivation for their jobs (Spilt, Koomen, and Thijs 2011). TSR has also been recognised as the core reason teachers stay in their teaching career (Hargreaves 1998; O'Connor 2008). Interview and survey data in four big cities indicate that teachers rate the TSR as the most important factor among 14 key variables, which have a vital influence on the recognition of their achievement and their relationships in their work (Shann 1998). According to it, the quality of TSR is also one of the most crucial factors connected with career satisfaction. In a word, a positive TSR is closely related to a high level of teacher's career satisfaction, teacher well-being and a lower stress level (Spilt, Koomen, and Thijs 2011; Milatz, Luftenegger, and Schober 2015). By contrast, negative TSR, with more conflicts between teachers and students, would lead to increased teacher stress, job burnout and quitting from a teaching career (Claessens et al. 2016).

10.2 Teacher and student contributions to TSR

Teacher-student relationships are bidirectional (DiLalla, Marcus, and Wright-Phillips 2004), with both teacher and student characteristics influencing the quality of the relationship (Rudasill et al. 2010).

10.2.1 Teacher's effects on TSR

Studies have reported the teacher's central role in constructing of the TSR (Chaves 1993; Hughes, Cavell, and Willson 2001; Krane et al. 2016). Compared to students, teachers locate in a more initiative position in the bidirectional relationship, which means they are more potent in the relationships. Their

traits have a profound influence, which includes but are not limited to teacher interpersonal style, caring, encouragement, expectation, teacher's support, fair treatment, gender, age, teacher self-efficiency, teacher self-concept, and the communicative systems approach. Here we will have a short discussion about caring and expectations.

Caring has been central in teacher and student research for decades. Perceived caring from the teacher could give students a sense of warmth and belonging, which facilitates the action of participants in studying activities (Teven and McCroskey 1997). Caring comes with the emotion of fondness, making the students feel that their teachers are interested in them, listening to them, praising their efforts and expecting them to be successful (Muller 2001; Teven 2007). Except for caring, teachers' support felt by students could predict their academic engagement, effort in studying, school performance and expectations of their achievement (Goodenow 1993; Murdock 1999). Even though studies report that the effects of positive TSR will recede in middle school, specific research shows that, from students' report, teachers' caring in and out of the classroom could predict changes in motivational effects for more than two years, even with controlled previous academic achievement and perceived control (Wentzel 1997; Longobardi et al. 2016).

Teacher's expectations towards students could reflect in students on their motivation to learn. It has been reported that, in middle and high school, students' expectations on studying could be formed from the teacher's expectation (Muller, Katz, and Dance 1999). Compared with other students who get fewer expectations from the teacher, highly expected students by the teacher, according to their perceptions, would be more motivated in attempting to accomplish these expectations and achieve higher achievement in their studies. Thus, teacher's expectations could affect students' studying outcomes through motivation, which makes expectation a significant factor (Gallagher 2013).

Teachers' beliefs and perceptions influence their behaviour in the classroom (Oolbekkink-Marchand, Driel, and Verloop 2007; van Uden, Ritzen, and Pieters 2013). Teachers' educational philosophies and initial educational motivations can also play an essential role in their work (Pop and Turner 2009; Richardson and Watt 2006; Yong 1995). Their perceptions of education and how they treat their students directly influence their educational practices and are infused in every aspect of their daily

teaching. These research investigations on academic motivation distinguish three types of teacher motivation (van Uden, Ritzen, and Pieters 2013). Altruistic motivation: someone who chooses to become a teacher because they want to contribute to the development of children/young people and society as a whole. Intrinsic motivation: someone decides to become a teacher because they have a passion for teaching and seeks opportunities for professional growth. Extrinsic motivation: Someone chooses to become a teacher based on external factors, such as salary, job security and status.

10.2.2 Student's effects on TSR

Quantitative research has reported that different student features could have unique effects in strengthening or undermining positive TSR. All the students, teachers mainly construct a positive relationship with the excellent students, with the students showing more effort control in their studying, with the students they think conforming to the classroom and the more outgoing students (Willis and Brophy 1974; Rudasill and Rimm-Kaufman 2009). Wentzel (2000) also reported similar results to the findings above, declaring that, from teachers' perspective, they would be more likely to have a positive TSR with three certain types of students: high social outcomes students (like being responsible to rules and teacher's words), high academic emotional students (like motivation and persistence in study), high academic outcome students (like getting good grades in exams). The social outcomes also include helping others and sharing. Research also indicates that different gender will have different TSR levels; girls are more likely to have positive TSR compared with boys; potential explanation is that girls are more attached to teachers with more closeness (Hughes, Cavell, and Willson 2001).

Other research implies that students with emotional and behavioural problems will face more risk constructing a positive TSR (Murray and Greenberg 2001; Murray and Murray 2004). It has also been reported that it is more difficult for the students who have conflict experiences with their teachers at an early age, or the students who had behavioural problems at an early age, to have a close relationship with the teachers compared with the no-risk students (Hamre and Pianta 2001). Finally, teenage that do

not have a satisfied expression at school will be more easily at risk in the construction of positive TSR, making them more reliant to teachers' (Plybon et al. 2003; Murray and Malmgren 2005).

10.2.3 Environment's effects on TSR

Quite a few research reports on the influence of the environment on TSR. However, the school environment, policies and culture have a unique and considerable contribution to TSR. Many obstacles can inhibit the construction of positive TSR. Some of these barriers stem from the broader needs of large, under-funded school districts that serve a large number of students from a lower socio-economic background. For example, many urban schools lack adequate resources for running, which may have a negative impact on the number of teacher vacancies, teacher professional development opportunities, and the time to establish and maintain a supportive teacher-student relationship. In such an environment, many schools lack teachers, and the hiring teachers are not qualified to teach the subject areas they are assigned to teach, and the teacher turnover rate is also high (Grossman, Beaupre, and Rossi 2001). In some cases, teachers in schools are required to fill vacancies by adding additional courses to their schedules, which would further limit their development and maintenance of student support. In some schools, teachers might have relatively low morale; some teachers may just focus on subject teaching while ignoring the construction of relationships. Inevitably, the construction of TSR suffered.

10.3 Theoretical foundations

In this section, the theoretical foundations of TSR and the main theories related to it will be discussed briefly. The bidirectional TSR is rather complicated; it still needs much further research. However, to reach a fundamental understanding of its nature, the bidirectional and dynamic state of TSR will be primarily presented.

10.3.1 Theoretical foundations and theories

Conceptualising teacher-student relationships

According to numerous research and published reports, TSR is defined and measured in various approaches. The meta-analysis also indicates that scholars in this area typically study TSR as specific aspects of the relationship (like closeness, teacher support and expectations, caring, fairness et, al.) whereas overlooking the comprehensive relationship (Cornelius-White 2007; Roorda et al. 2011). Also, most researchers focus on only the teacher's or student's perspective, rarely both.

Brinkworth et al. (2018) synthesised central concepts from attachment theory, parent-socialisation, self-determination theory and social psychological theory to come up with an optimised understanding: 'TSR as dyadic social processes that involves ongoing interactions between teachers and students in classrooms' (p.25). According to their research, TSR is a social and studying interaction that is constructed and changed continually; main themes of it include relatedness/closeness, control/conflict, self-support and competence (**Figure 10.1**).

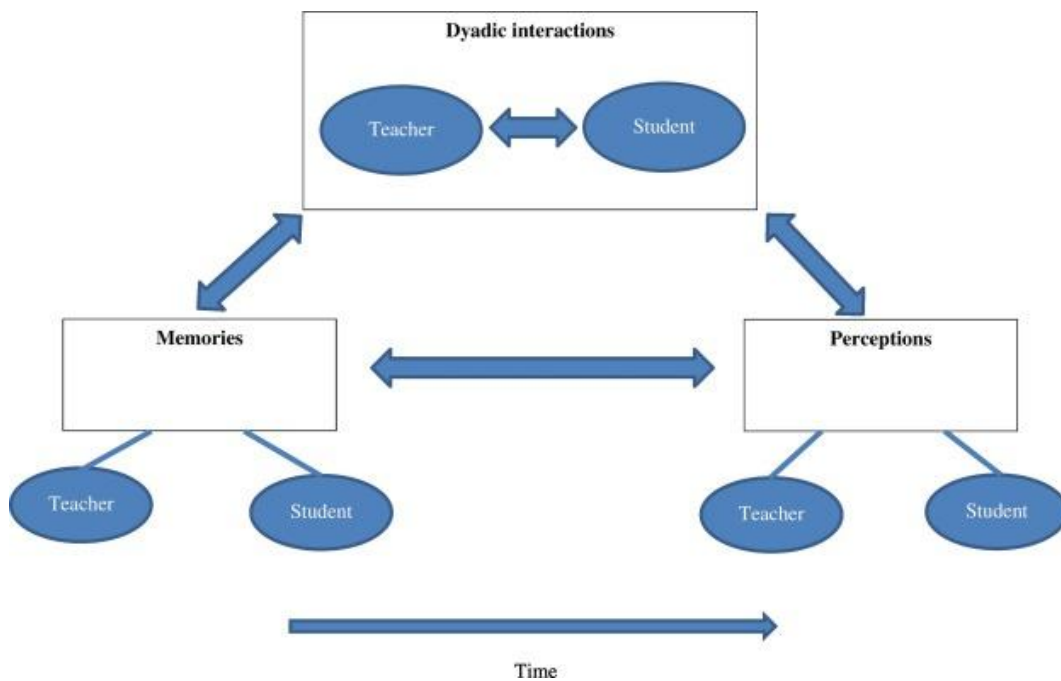


Fig 10.1: A model of teacher-student relationships (Bosman et al. 2018).

Attachment theory

Numerous researchers have proposed the importance of students' attachment to the teacher (Nias 1996; O'Connor 2008). Bowlby (1969) also developed the attachment paradigm suitable for TSR, which, combined with the self-determination theory (Deci and Ryan 2000), underlined human being's basic requirement for relatedness and attachment to other social members. Similar to parental caregivers (parents), it has been claimed that teachers could construct a psychological model with the student about their relationship, representing teachers' views, feelings and inner world (Pianta, Hamre, and Stuhlman 2003). Because of the physical closeness and communication, it could be the caregiver, from where the students could get considerable emotional safety (Golby 1996; Riley 2009).

Self-determination theory

Deci and Ryan (2000) and Spilt (2011) postulates three universal, instinctive psychological demands: autonomy (ownership, responsibilities, and self-actualisation), relatedness (close relationships, interpersonal regard, and support), and competence (feeling capable of bringing out desired outcomes and effectively cope with challenges). This corresponding theory, self-determination theory, has been widely applied in educational psychology to illuminate learner motivation and students' wellbeing (Spilt, Koomen, and Thijs 2011). For the students, these three foundational needs have been shown to facilitate students' emotional satisfaction and then contribute to academic motivation and achievement (Bao and Lam 2008; Furrer and Skinner 2003). It has also been reported to affect the teachers, and promote teacher's inner motivation and a positive attitude toward teaching, which in turn leads to a better engagement of the students in study activities (Wagner and French 2010).

Even though these studies (in different approaches and directions) sustained in discovering robust connection between positive TSR and satisfied academic, emotional and social outcomes for students, an overall and integrated concept and perspective would still be needed to benefit the further exploration in this valuable area.

10.3.2 The interpersonal relationship trait of TSR and its dynamic state

The teacher-student relationship as an interpersonal relationship

Research persistently reports the enormous potential and practical effects of relationship on young people's success at school (Creasey et al. 1997; Culp et al. 2000; Field, Miguel, and Sanders 2002; Marjoribanks 1996; Green, Martin, and Marsh 2007). Directed by a central definition of relationship as "how they feel and behave towards each other" (Collins English Dictionary, 2018), I would like to start the analysis of its concept from a conjoint framework of theories, contents (constructs, mechanisms) and practices relevant to motivation, engagement, and emotion in the academic context.

Numerous studies highlight the importance of positive interpersonal relationships to the crucial functions of human life (Berkowitz 1996; De Leon 2000; Fyson 1999; Glover 1998; Moos 2002). As a main source of happiness buffering stress (Argyle 1999; Glover 1998), relationships could give individuals cooperative help for missions and challenges, emotional support in groups and friendship in

social activities (Argyle and Furnham 1983; Gutman, Sameroff, and Eccles 2002). On the contrary, lacking relationships could lead to unhappiness and distress (Cowen and Work 1988; Gaede 1985). Interpersonal relationships are also crucial for emotional development and social stability (McCarthy, Pretty, and Catano 1990; Abbott and Ryan 2001). Positive relationships play key roles in adolescent growth and mental development (Damon 1983). Interpersonal relationships could produce intrapersonal energy: relatedness, which acts as a central passage through the motivated engagement in vital activities (Martin and Dowson 2009). The fundamental conception underlying “relatedness” has been depicted from numerous theoretical perspectives. Perhaps the suggested developmental explanation derived from attachment theories could be that children have long-term secure attachments (interpersonal relationships) to guardians or people around them, allowing them to explore freely and engage in constructive interactions and activities with the outside environment (Furrer and Skinner 2003).

The dynamic state of TSR

TSRs are dynamic and change in quality over time (Davis 2003; Chan, Tong, and Henderson 2017). Research demonstrates that relationships between teachers and students constantly evolve through different phases (Newberry, 2010), and that teachers’ relationship patterns can change over their careers (Brekelmans, Wubbels, and Van Tartwijk 2005). Unfortunately, teacher-student relationship quality tends to decrease as students get older (Lynch and Cicchetti, 1997; Niehaus et al., 2012), including over one school year in the context of new teacher-student relationships (Opdenakker, Maulana, and den Brok 2012). Besides this downward trend, it is evident that the relationship students need with teachers changes as they get older. Younger children have relationships with teachers similar to the caring nature of parent-child relationships (Pianta et al., 2002), while older students prefer teachers who inspire and provide guidance. Scarlett et al. explain this difference as younger children having security needs and older students having autonomy needs (Scarlett et al., 2008). It might explain why research has found that positive relationships with teachers have a stronger impact on the engagement and achievement of secondary students, while negative relationships affect primary students more (Roorda et al., 2011).

10.3.3 TSR effects through academic emotions and engagement

Raufelder et al. (2016) conducted a study which combined education, psychological practice and neuroscience found that amygdala activity and test anxiety levels in the brains of students who had good relationships with teachers were significantly associated with teachers' emotions. The amygdala is the brain tissue in the human brain that produces emotions, identifies and regulates emotions, and controls learning and memory (Sah et al. 2003; Kim, Dager, and Lyoo 2012). They concluded that students who reported positive relationships with teachers might be more sensitive to teachers' emotions than other students and that these students had elevated neural responses to teacher emotional stimuli that were associated with neural activity in the amygdala, leading to cognitive (worry) and physiological (emotional) reactions. The reason for this may be that they have a higher level of interest in and respect for the teacher, and therefore the teacher can more easily transmit their emotions and attitudes to the students. Raufelder et al. (2016) argue that such results prove that the quality of the interpersonal relationship between teacher and student is more valuable than the direct perception of the teacher as an unconditional motivator, as such results are consistent with previous research that meaningful stimuli can more intensively activate the amygdala (Leibensluft et al. 2004; Marusak, Carré and Thomason 2013). From a pedagogical perspective, this finding may imply that teachers can only be effective motivators when they have developed a good teacher-student relationship with their students. Saarni's theoretical model of emotional competence (Saarni 1999) offers a possible explanation that interpersonal connections are crucial to the understanding and transmission of emotions. A good and close relationship between teachers and students allows for emotions to be transmitted and understood between them. Students who reported high-quality TSR (characterised by closeness, trust, warmth and caring) are generally less prone to anger and depression while exhibiting better social adjustment and self-esteem (Eccles et al. 1997; Reddy, Rhodes, and Mulhall 2003).

10.4 Improving teacher-student relationships

After the discussion above, the incomparable beneficial outcomes of positive TSR have made it no doubt an area worth exploration. However, the complexity of it as a bidirectional relationship and inter-discipline (education and psychology) research also makes progress incredibly intricate. Back to the study in classrooms, when you ask the students' feelings after studying a subject, most of their replies are upon the type of relationship they had with the teacher; the other aspects often come off secondary (Mifsud 2011). The teachers seem to hold the key. "Her approach to teaching, her personality, her power to motivate, make learning meaningful and provide something which the pupils refer to as 'fun', represent the real foundation upon which pupils' judgement of the learning experience is based" (Chambers, 1999, p.137). Besides, it has also been claimed that improving the quality of TSR in the classroom with crafting interventions does not need to impair the academic goals (Midgley & Edelin, 1998). Thus, the teachers and researchers need to find ways to improve TSR for practical application.

10.4.1 Teacher humour

Humour is a teaching strategy or communication technique some teachers or educators use in the classroom or their interactions with students. Types of humour can be expressed in riddles, jokes, puns, sarcasm, one-liners, non-verbal behaviour, physical comedy (Meeus and Mahieu 2009; Bekelja Wanzer et al. 2006). Several studies have shown that humour is perceived as generally positive in the university classroom, but there are also inappropriate types of humour, such as discriminatory, sexual humour, malicious sarcasm and humour involving racial discrimination, that is perceived as unfavourable by students (Bekelja Wanzer et al. 2006; Fitriah 2017; Monitor 2018).

The few voices that question the use of humour in the classroom are also about the potential for humour to disrupt learning in the classroom or the image of teacher authority (Meeus and Mahieu 2009; Fitriah 2017), but the vast majority of research and opinion encourages and supports the use of appropriate humour in the classroom because teacher humour can engage students' attention and memory (Bryant, Comisky, and Zillmann 1979; Gorham and Christophel 1990; Lei, Cohen, and Russler 2010), create a positive classroom atmosphere (Meeus and Mahieu 2009; Chiasson 2002), contribute to students' academic mood, enjoyment of learning, academic self-efficacy and motivation,

(Frenzel et al. 2009), and increase students' academic engagement (Pollak and Freda 1997; Tews et al. 2015). Surveys conducted by Fitriah (2017) and Abraham et al. (2014) reveal that the vast majority of students felt that the appropriate inclusion of humour in the classroom was a good thing and positively impacted learning.

Hayes (2006) and Fitriah (2017) argue that humour, as an essential element of communication, can break up the boredom, help create a positive classroom environment that can reduce students' anxiety about difficult material and knowledge acquisition and encourage them to participate in lessons (Gorham and Christophel 1990; Garner 2005; Bain 2004).

10.4.2 Teacher caring

Caring is viewed as a fundamental attribute of most, if not all, human relationships (Teven 2001). In terms of research on TSR and teaching in the classroom, there is considerable evidence that caring is an essential characteristic of effective teachers (Teven and McCroskey 1997; Teven 2007; Teven and Hanson 2004). As early as the 1990s, student perceptions of teacher care were found to have an important and positive relationship with student engagement prior to student achievement (Parish and Parish 1991). Regarding research on TSR and teaching in the classroom, there is considerable evidence that caring is an important characteristic of effective teachers (Teven and McCroskey 1997; Teven 2007; Teven and Hanson 2004). These studies continue to point to the importance of face-to-face teacher-student interaction (Aylor and Oppliger 2003; Teven 2007). Personal interaction with other academic community members, including teachers, is an important factor in promoting student identification and engagement (Thijs and Koomen 2008; Kim and Cappella 2016).

10.4.3 Teacher's reasonable criticism of learners

Teachers' daily work often involves criticising and educating students, including correcting students' disciplinary and hygiene habits, completing homework on time, and resolving student disputes. Children are sensitive to emotional signals and criticism from others, and this sensitivity is an important aspect of children's social and emotional development (Mizokawa 2013). Younger children, or children who respond to criticism and failure with helplessness, show negative emotions and less perseverance and reply with lowered expectations (Smiley and Dweck 1994; Cutting and Dunn 2002; Lecce, Caputi, and Pagnin 2014). Some children are able to respond with mastery, reflecting positive emotions and constructive behaviour (Diener and Dweck 1978). Too much criticism and error correction can be frustrating for learners (Vengadasamy 2002).

10.4.4 Good interpersonal interaction and communication

The foundation of adult-child interpersonal interactions is the adults' ability to read children's emotional and social cues, respond appropriately to children, and provide emotional support or limits when needed (Pianta, Hamre, and Stuhlman 2003). At the most basic level, therefore, the quality of interpersonal interactions and relationships between adults and children depends on the personal attributes and interpersonal skills of the adults. It is noteworthy to consider teacher characteristics and teacher-pupil interpersonal interactions, as these can be modified and shaped to improve the quality of interactions and relationships with children, ultimately contributing to positive outcomes for children (Sabol and Pianta 2012).

Positive relationships and interactions with teachers can facilitate children's cognitive processes, while negative relationships can create barriers to children's cognitive processes (Berry 2012; de Wilde, Koot, and van Lier 2016). Considering that the classroom is the primary setting in which behavioural engagement occurs (Fredricks, Blumenfeld, and Paris 2004; Lawson and Lawson 2013), studying the social processes of the classroom, the relationships and interactions between teachers and students are critical to improving behavioural engagement (Hughes et al. 2012; Reyes et al. 2012). Kim and Cappella (2016) also found that the quality of classroom interactions and individual relationships,

predicted behavioural engagement and reported an independent effect of classroom interactions on behavioural engagement.

10.4.5 Teacher Characteristics

Although it remains challenging to figure out which personal components constitute human personality traits, researchers have found a relationship between teacher personality traits and effective teaching (Teachout 1997; Yarbrough and Madsen 1998; Polk 2006). It was reported that teacher personality traits could be used as a predictor of instructional effectiveness (Murray, Rushton, and Paunonen 1990; Schmidt, Lewis, and Kurpius-Brock 1991). Personality traits can help teachers recognise their personality types and characteristics, allowing them to tailor their teaching to their strengths (Schmidt, Lewis, and Kurpius-Brock 1991; Wubbenhorst 1991). Students also believed that students behaviour in school was related to the characteristics of their teachers and the way they treated their students (Palaniandy 2009).

10.4.6 Teacher Dedication

Teachers' dedication is often associated with teachers' full of passion, teachers commitment and responsibility to their students. As stated by (Carbonneau et al. 2008), passion is defined as "a strong inclination or desire to engage in an activity that one enjoys and considers important, and in which one invests time and energy" (P973). A teacher's commitment and dedication to students and learning is one of the most important factors in developing a passion for teaching. Passionate teachers have a solid faith to their work and are a great inspiration to their students (Fox 1964). Duval and Carlson (1993) also suggest that committed and dedicated teachers spend more than the average amount of time and energy on their work. The time and effort spent by teachers can provide quantifiable measures of teacher commitment and dedication.

10.5 Conclusion

From the empirical evidence, the significance of a positive TSR for students' achievement and outcomes is forceful, with plenty of studies (e.g., Newberry and Davis, 2008; Roorda et al., 2011; Hughes et al., 2012) conducted for the past two or three decades. This effectiveness research was considered the first era of TSR research by Hughes; the second era of research in this field is currently conducted is about understanding why these positive TSRs exist, how they are founded and how to assess the relational interventions (Hughes et al., 2012). Researchers also come up with proposals for future TSR research, such as what strategy or adjustment teachers can do to construct a positive TSR in the classroom (Aultman, Williams-Johnson, and Schutz 2009; Miller-Lewis et al. 2014; Newberry 2010; Wu and Hughes 2015). Scarlett, Ponte, and Singh call for more research about specific relational strategies (Scarlett, Ponte, and Singh 2008). The findings in this topic could be of great value; these can be utilised when developing tools and interventions for improving TSR (Hughes 2012; McCormick et al. 2013; White 2013).

In this study, I come up with the research questions about the teacher's concept, teacher's and student's perspectives, considering TSR from a whole class level coping with classroom inequality and viewing students' feelings from a creative visual (painting) view. Hopefully, I could find some insights in filling these gaps. The detailed methodology will be discussed in the next section.

Chapter 11: Research Questions and Methodology of Study

2

11.1 Introduction

This chapter describes the research methodology used to investigate the research questions posed by this study. A mixed methods research paradigm is adopted. Such a paradigm involves both quantitative and qualitative research strategies. The rationale for using such an approach and its strengths and weaknesses will also be expounded. After that, a comprehensive account of the research design, including the selection of participants, development of research instruments and data collection procedure will be provided. Finally, ethical considerations, reliability and validity issues will be discussed.

11.2 Study rationale

Based on my educational practice as a primary teacher and on my review of the literature on TSR research, I identified three key research orientations with great potential to benefit main-stream school education, which have been rarely explored:

Firstly, from the teachers' characteristics and perception, how are the positive teacher-student relationships established, especially in the whole class level with students possessing different personalities (like extroverted and introverted, etc.), not just several "good students" who initiate communication with teachers? In the last decade, educators and researchers have already noticed and claimed that teachers need to be more aware of the characteristics of certain groups of students at risk of developing poor relationships with the teacher; thus they can prevent this from happening proactively (O'Connor, Dearing, and Collins 2011; Nurmi 2012; Rudasill et al. 2013). Other than this,

teachers ought to know that their attitudes and characteristics play a vital role in the quality of their TSR with the students (Liew, Chen, and Hughes 2010; Rodriguez-Mantilla and Fernandez-Diaz 2017). The teacher characteristics of caring, support and justice had been reported to contribute to positive TSR largely (Muller 2001; Schmitt, Pentimonti, and Justice 2012; Jiang et al. 2018). However, it is far from enough for our understanding about the nature development of positive TSR. It is worthwhile to have a further exploration of the connections between TSR and teachers' characteristics and perceptions.

Secondly, I argue that research on TSR should include focus on detecting and addressing relational inequity in classrooms. For example, Hattie states teacher education would be more effective if demonstrating 'how teachers can build positive relationships with all students' (Hattie, 2008, p.127). Some students are neither outstanding in academic achievements nor cause troubles, like the introverted ones, are reported to have little attention and time allocation from the teachers (Fosen 2016; Walusinski 2018). This kind of students are referred as the 'forgotten middle' (p96), which are at-risk ones in classroom relationships (Newberry and Davis 2008,). Newberry claims that despite 30 years of research showing that teachers treat students differently in the classroom, sometimes based on their performance expectations, whereas literature has not explained why (Newberry 2010; Urhahne 2015). Not to mention the left-behind children (See section 9.3) who suffer more from the disadvantaged TSRs, as discussed in the context and review. The reasons why I elaborated on left-behind children in the literature review whereas did not set them as the separated target student group are (1) left-behind children are an important disadvantaged group, but they are not the only disadvantaged group in the classroom in TSR. The medium group students, the introverted students and the students who have few opportunities to communicate with the teacher (not close in TSR) are also disadvantaged groups in the classroom. This is also the main reason my research focuses on the TSR construction of the whole class level; (2) according to my practical teaching experience in Chinese rural primary school and my communication with my colleagues, the psychology state and self-respect of left-behind children are relatively fragile. I had always been tried to avoid mentioning the label of 'left-behind' in any aspect as I can, trying not to make them 'special' to protect their psychological health. Also, I believe that focusing on the TSR construction at the whole class level will benefit this special disadvantaged group. This is the second reason I did not focus on left-behind children or had a special research question on them.

Thus, it is vital to consider TSR from a whole class level to identify teachers with a positive relationship with the majority of the students and then to conduct in-depth qualitative research to trace the reason.

Last but not least, as discussed above, students have different personalities, they have emotional and psychological demands, which are also different from one to another, from their teachers. Students at young ages are more likely to seek a feeling of safety and caring, whereas when they get older, they will have more demands for approval and self-identity (Kutnick and Jules 1993; Way 2011; Nygren and Hagquist 2017). This indicates that students' psychological feelings and attitudes are far more complicated than the current research can reach. However, a great deal of TSR research was conducted adopting quantitative questionnaires or from the teachers' perspectives, and few of them could elicit the complicated feelings of the students. TSR is a bidirectional and dynamic interpersonal relationship, which means that students and teachers can make a difference; it is a changing relationship. TSR cannot be evaluated and fully understood purely from teachers' perspectives and opinions. Students' feelings about TSRs and its positive or negative effects on their motivation, academic emotion or attitudes are better reflected through self-report (question answering and painting). It is proposed by Katz and Westler (1994) that people's description by themselves of their psychological state or attitude is the main and best approach to reflect human feeling and behaviour: 'He or she has unique access to his or her internal feelings, states which outside observers can only infer' (p375). Moreover, the student is the centre of TSR effects; in other words, outcomes of TSR (like academic attainment and academic emotions) are fully effect on the students. The feeling of students about different TSRs and what it brings could not be reflected by anyone else, especially adults with quite other life experience and views. These highlight the necessity of evaluating TSR from students' perspectives and exploring students' opinions and feelings about their relationships with the teacher.

This study is intended to explore the nature of TSR from both teachers' and students' perspectives. It will attempt to identify the factors that would benefit the construction of positive relationships at the whole class level. The perspectives from teachers and students about TSR, especially in positive TSR, are rarely reported in a detailed and comprehensive way, which highlights the value of this research. The findings may help to provide Chinese teachers with better approaches to deal with the educational inequality from which students such as left-behind children and disadvantaged student groups can suffer. This research may also identify the characteristics and strategies that contribute to positive TSR,

which could help teachers from any country. These could then be transmitted to in-service and pre-service teachers through training.

11.3 Research Questions

The main research questions of this study are:

- 1. How positive are teacher-student relationships (TSR) in two Chinese primary schools in urban and rural contexts? What are the scores of TSR in these two schools as measured by the questionnaire?**
- 2. What are two current successful Chinese primary school teachers' beliefs about the value and nature of teacher-student relationships, and how do they inform their practice?**
- 3. What are the students' feelings about, and attitudes towards, the teaching of these teachers, and how do they inform their behaviours in studying?**

The 'current successful' teachers would be the teachers in each school who obtained the highest mean score from the TSR scale among the participant teachers. The score implies that the teacher is currently being effective in constructing relationships with students, possessing a high level of closeness and low level of conflict with the students.

11.4 Methods

11.4.1 Mixed Methods Research

This study adopted a mixed method to explore the research questions better. The mixed method approach implements both quantitative and qualitative techniques during the data collection and/or analysis phases of research, with the data collected simultaneously or sequentially (Armitage 2007; Bazeley 2003). Aiming to address the research questions in the best way possible, using a mixed methods approach is seen as a fitting way of decreasing weaknesses existing in both quantitative and

qualitative research (Creswell and Creswell 2017). Quantitative research is sometimes criticised for being decontextualised and failing to connect meaning to participants' lives and situations. Its results can be general and overly simplistic (Brannen 2005). Qualitative research, on the other hand, tends 'to sacrifice scope for detail' (p9) as it focuses on the participants' understanding and interactions (Silverman 2013, 99). These arguments are also sustained by Rocco et al. (2003) when they say that "Purely quantitative research tends to be less helpful through its oversimplification of causal relationships; purely qualitative research tends to be less helpful through its selectivity in reporting" (p. 23).

Whether written or orally conducted, questionnaires offer a restricted choice of responses (Bird 2009). This means that responses are not free but contained, though the sample size is much larger. If adopting qualitative research methods, the sample is likely to be smaller, but one could argue that the responses can be more meaningful as they are more likely to be guided by the respondent. On the other hand, one major advantage of quantitative research is that it allows the researcher to investigate a phenomenon without having any influence on it or being influenced by it (Rahman 2017). In fact, there is the risk that the researchers might put forward their personal opinion at the expense of truly reflecting on the genuinely response of the participants (Tashakkori, Teddlie, and Teddlie 1998). For this reason, results might be deemed to be unwarranted. Qualitative research is also sometimes criticised for being too context-specific, and the small numbers of participants are seen to be unrepresentative (Brannen 2005).

11.4.2 A Mixed Methods Approach

Firstly, for the quantitative study, a survey of teacher-student relationships was carried out using questionnaires, which investigated both teachers' and students' perspectives. This step aimed to gain an overview of each specific teacher's relationships with his/her students and identify the outstanding teacher in each school who had managed to construct an excellent TSR with the majority of the students in their class. After that, further qualitative exploration (including interviews, class observations and subject painting) was conducted; the qualitative approaches not only investigated the TSR from both teacher and student's perspectives in the outstanding TSR class but also their interaction during teaching activities. More specifically, class observation and semi-structured interviews were conducted with the outstanding teachers. The students were interviewed in focus

groups to decrease their feeling of tension in order to get richer data. Subject painting was also conducted on the students considering that some students at this age (10-11) might be shy in talking but better at expressing themselves through writing and painting (Zhai, Jocz, and Tan 2014).

The quantitative survey led to the qualitative part for triangulation and complementarily purposes (Greene 2007). The procedure in each school is shown in **Figure 11.1**; also, an overview of research questions, methods of data collection and analysis is shown in **Table 11.1**. Together, the data analyses for these methods were progressive and multi-layered to generate complementary insights that together create a fuller picture of TSRs in each classroom, considering both teachers' and students' perspectives.

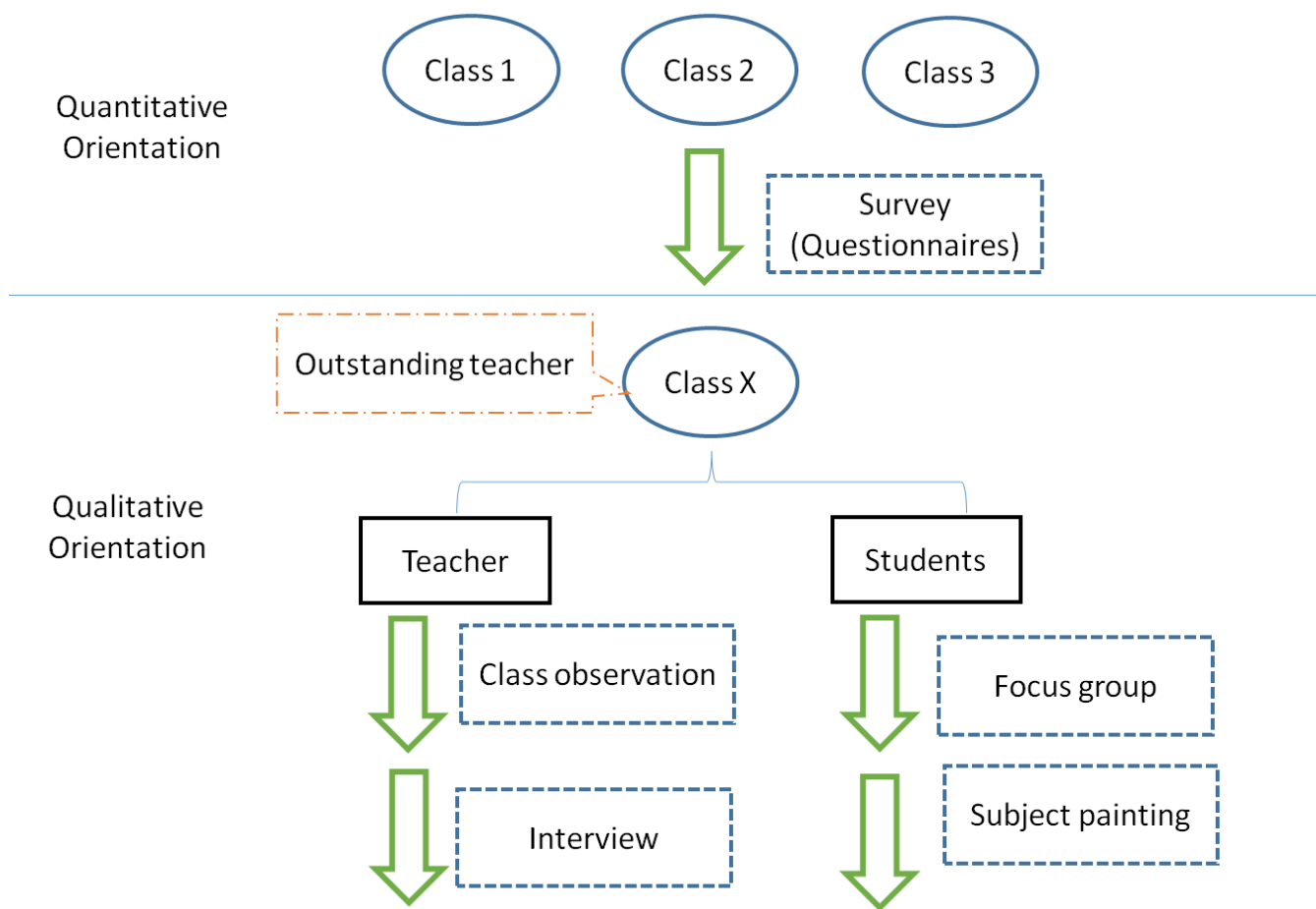


Fig 11.1: Research procedures for this study in the two schools.

Table 11.1 Overview of research questions, methods, data collection and analysis in Study 2

Participants	Research Question	Instrument	Analysis method
Teachers & students	1. How positive are teacher-student relationships (TSR) in two Chinese primary schools in urban and rural contexts? What are the scores of TSR in these two schools as measured by the questionnaire?	TSR Questionnaire (teacher and student have separated sub-scale)	Reliability analysis Descriptive statistics Statistical significance Independent-samples t-tests
Teachers	2. What are the beliefs of two outstanding Chinese primary school teachers about the value and nature of teacher-student relationships and how do the beliefs inform their practice?	Class observation Semi-structured Interviews	Qualitative content analysis
Students	3. What are the students' feelings about, and attitudes towards, the teachers' classroom practice, and how do the feelings affect their behaviours in studying?	Class observation Focused group Interview Subject paintings	Qualitative content analysis

11.4.3 Participants

Participants in the survey

Two primary schools from urban areas in China joined our research. The two participant schools were recruited from the primary schools which are affiliated with Guangdong University of Foreign Studies (GDUFS), which has cooperative relationship with the School of Education at University of Leeds and

has expressed interest in collaborating on the project. GDUFS helped me access local Chinese primary schools and provided valuable information about the Chinese educational context. When recruiting the participant schools, I asked the researchers in GDUFS to publish recruitment notices seeking volunteer schools with teachers and students who were interested in this research. The two volunteer schools were firstly informed about the detailed process of the study, the consent form and the information sheet. If the teachers and students are willing to participate in the study with full awareness of it, and the number of teachers and students is sufficient for the study, they could be our participant school. I recruited one primary school in the urban area and one in the suburb area. Actually, in the two participant schools, there were more than three volunteer teachers and their classes willing to join this research project. Considering about the principle of this study is trying to identify outstanding teachers in TSR construction, the head teachers in the two schools recommended several excellent teachers. These teachers joined the survey; it turned out that the majority of the recommended teachers did have positive TSR with their students (for more details see section 12.1.2). After all, this research aims to investigate the TSR situation in main-stream Chinese primary schools. The voluntary basis was double-checked with both the teacher and student participants before the research.

In each school, surveys were distributed to three volunteer Maths/Chinese teachers (class teacher) and their classes in grades 4-5 (aged 10-11) among both the students and teachers (both the teacher and his/her students have their section in the questionnaire, details of instrument in section 4.4.4). The teachers were all class teachers because typically, in the Chinese school context, class teachers are in charge of the students' daily management (like activities and affairs), which means they have more opportunities to communicate with the students and construct TSR, whereas other teachers only in charge of the teaching of one subject. The reason classes in grades 4-5 are chosen is because students in grades 1-3 might not be mature enough to express themselves clearly in the following interviews, whereas students in grade 6 are in a transition period and have been reported to have significantly weaker relationships with the teachers (Bosman et al., 2018). Considering the appropriate scale for the PhD research, I chose 3 classes in each school with 240-260 students (hence 480-520 bidirectional questionnaires) for the survey.

Participants for interviews, class observations and subject paintings

After the surveys, the teacher in each school with the highest TSR score was identified as the outstanding teacher (in the TSR construction with most of the students). For convenience, the two outstanding teachers were called “case teacher 1 and case teacher 2” in the results part. Teacher case 1 is from the first participating school, a private boarding school located in the suburb. Teacher case 2 is from the second participant school, a public school located in the city centre. Interviews, class observations and subject paintings were conducted with these outstanding teachers and their students. The teachers took part in semi-structured interviews. Each teacher had three lessons observed for the classroom observation. The participant students for the semi-structured focus group were selected based on voluntary choice; I organised two focus groups (6-8 students in each group) in the first teacher’s class and five focus groups (5 students in each group) in the second teacher’s class. The students joining the subject painting were chosen from the rest students (who did not join the focus group interviews) on the principle of voluntary participation; they expressed their feelings and attitudes about their teacher by painting a picture with a caption to explain its theme literally (see section 11.4.7). In total, 34 students from class case 1 and 12 students from class case 2 joined the subject painting.

11.4.4 The Teacher-Student Relationship Questionnaires

Teacher and student perceptions of the TSR were measured with the Questionnaire (See **Appendix K**) from Brinkworth et al.(2018). This is an optimised questionnaire based on Teacher Interaction (QTI) (Créton and Wubbels 1984) and reported in terms of influence and affiliation. QTI has been widely used in quantitative research about TSR. Examples of QTI items are ‘This teacher can take a joke’ or ‘This teacher is strict’. The reliability and validity of the QTI have been shown in several international studies(Den Brok et al. 2003; Wubbels et al. 2006). Four reasons for adopting the Teacher-Student Relationship Questionnaire (TSRQ) by Brinkworth et al. are:

1. The TSRQ takes both teacher and student’s perspectives into consideration, with teacher’s subscale and student’s subscale (teacher and student perspectives have their unique predicted effect on outcomes, and this is much better than considering from only one perspective);
2. The practical TSRQ is practical as it has only 14 items compared with the QTI, which has 60 items (and 48 in the reduced version);

3. The TSRQ has both positive and negative items, which could reduce the harmful effects of the ‘acquiescence bias’;
4. The reliability of this questionnaire has been verified in America and published (Brinkworth et al. 2018). In this study, the questionnaire was used in a different language context (China); it was translated and tested in a trial (see section 11.5) and piloted in a Chinese primary school.

The questionnaires (TSRQ) adopted in this study have been translated into Chinese and tested with successful results. The TSRQ was originally written in English language and has been applied in the USA. In order to use it in the Chinese context, I personally translated it from English into Chinese. In order to ensure that the translated questionnaire reflects the original questionnaire and that the content of the questionnaire is easy to understand, I invited two peer researchers to review the translated questionnaire and the original English version, respectively. Both peer researchers are my classmate PhD candidates, native speakers of Chinese, with bilingual academic and research backgrounds. They are both native Chinese speakers and have bilingual educational and research backgrounds. One has a background in K12 and undergraduate education in China, several years of teaching experience in leading English language educational institutions in China, and an excellent Master’s degree in TESOL from the University of Leeds. The other one, whose research interests are in K12 education, also has a background in K12 and undergraduate education in China, a master's degree from Oxford University in the UK, and had over 10 years of experience in teaching and managing English in K12 education in China. They made a small number of changes to my translation of the questionnaire and agreed that the revised translation reproduced the original questions very well in the Chinese context and was easy to understand. We got a consensus about the final version based on the principle that the Chinese version got exactly the same answer as the original English version, with just a slight difference in how to pose a question (due to the different language habits, like in English when you ask “How friendly is X?”, the Chinese way of asking would be “Is X friendly?”, but will get the same answer: “X is friendly/ not friendly”). After translation, the Chinese version of TSRQ (See **Appendix K**) has also been trialled with Chinese teachers and students, similar to the potential participants, with an excellent result in that they all reported that the Chinese version questionnaire is precise in meaning and the process of responding can easily be followed.

Four Chinese primary school teachers (two of them have teaching experience of more than 15 years and two have less than 5 years) tried out the TSRQ. And I asked their opinions about finishing 50 questionnaires; they thought the questionnaire was not a difficult task generally. Firstly, they were asked to complete two or three questionnaires for students and compare the questionnaire task with the marking students' homework task. Generally, they all expressed the view that if the questionnaire had 14 items for each student individually, it would be no more burdensome than marking the students' homework as they must do every day. After that, they were asked to estimate the time needed to finish 50 questionnaires. One teacher said she only needed 40 minutes; another two other teachers said they might need an hour, and the last teacher said she could finish them in two hours.

11.4.5 The Interviews

Interviews enable the researcher to pursue in-depth information about the topic. It is stated that there are two purposes for interviews: exploratory and hypothesis testing (Creswell and Creswell 2017). The interviews in this study will be used for exploratory purposes, to explore the views of teachers' perception about education, TSR, students' feelings and attitudes towards the relationship and how it affects them. The semi-structured interview involves "a set of prepared guiding questions and prompts, the format is opened-ended, and the interviewee is encouraged to elaborate on the issues raised in an exploratory manner" (p238) (Dörnyei and Ushioda 2001). Because this interview type fit the purpose of my research's qualitative phase, a semi-structured interview was selected for the teacher's interview.

The teacher interviews are intended to provide an in-depth exploration of the teachers' perceptions of student education, TSR and their particular teaching strategies in constructing relationships with students. Exploring teacher education perceptions mainly includes three themes: 1. teacher education background and professional motivation; 2. teachers' conception of student education; 3. Teachers' conception of TSR. The exploration of teacher education practice strategies mainly includes three themes: 1. the state and adjustment of TSR; 2. the effects of positive TSR; 3. TSR construction strategy and practice. For each theme, two to five sub-questions (See **Appendix L**) are included as probes to ask the teacher to elaborate. The questions are open-ended, and each topic is followed by an opportunity for the teacher to speak out freely. Procedures and schedules of teacher interviews are shown in data collection (section 11.7)

The purpose of the student focus group is to explore students' feelings about the teacher and the class in general and their feelings about their relationship with outstanding teachers in order to have a deeper understanding of their performance in different teachers' classes and their perspective on the academic emotions. At the same time, the purpose of the focus group is to allow students to discuss and inspire each other and verify the common feelings of some ideas. There are four main topics in the discussion of the student focus group: 1. general feelings and preferences about the subject and the teacher; 2. feeling for outstanding teachers; 3. differences in teachers' lessons; 4. the establishment process and time of TSR. For each topic, there are two to five sub-questions (See **Appendix M**) as a probe to ask the teacher to elaborate. The questions are open-ended. Each student in the group was consulted at the beginning and invited to have a free discussion and express their opinions. Procedures and schedules of the student focus group are shown in data collection (section 11.6).

11.4.6 Class observation

Three class observations were conducted with each outstanding teacher, aiming to better understand the classroom climate and the nature of the interaction between the teacher and students in the classroom. The teacher's language, attitude, behaviour, and classroom management strategies were one focus of observation. The students' behaviour, language, expression, reaction and interaction with the teacher were also recorded to understand the nature of their engagement and motivation. The observations were recorded with observation sheets (example observation sheet and notes see **Appendix N**), about the basic information and the highlights associated with the observation focus mentioned above. The class observations also informed the subsequent interviews with the teachers. I used my observation of the teacher's and students' classroom behaviour as discussion points and examples in the interview. For each outstanding teacher, three of her/his lessons were observed. Two classroom observations were conducted before the teacher interview to understand the lessons' situation better and benefit the following interview. One last observation was conducted after the interview to verify and support the results from the two approaches. The practical classroom observation schedule is shown in the data collection (chapter 11.6).

11.4.7 Subject painting

An open-ended subject painting activity was employed alongside the focus group interviews to explore how students visualise their relationships with their teachers and their accompanying feelings and attitudes. Samuels and Ewy (Samuels and Ewy 1985) argued that representations like paintings and pictures are effective media in revealing emotions since they are outcomes of feelings, relationships and instincts. As an effective instrument for qualitative inquiry, participant-produced painting/drawing is regarded as an evaluation method to document educational phenomena; it could help me extract rich evaluable data on the affective nature of studying and learning, which needs an immense amount of effort to probe by quantitative methods (Haney, Russell, and Bebell 2004; Ward and Shortt 2013). In this study, subject painting could help encourage students to express their feelings and emotions (Vince 1996; Kearney and Hyle 2004; Muñoz C, Mosey, and Binks 2011). Thomas et al. (1998) cited research indicating that drawing could help students to recall events and voice more detailed memories; they mentioned that young students might be more receptive to activities like drawing than to direct questioning, and it can also contribute to the ice-breaking process with the more shy learners. Reliability and validity evidence to support the use of students' painting on educational narrative and change has been reported through empirical examples (Haney, Russell, and Bebell 2004). Weber & Mitchell (1996) and Harris et al. (2009) argue that even though many have realised the revelatory potential of children's drawing for over a century, educational research has rarely utilized this technique.

In this study, painting participating students in the outstanding teachers' classes were asked to paint a picture about the subject "Me and my teacher" on an A3 paper and write a caption (see **Appendix O**) to describe or explain it. The caption had three prompt questions:

1. What kind of scene does this painting depict?
2. Why are you painting like this?
3. In your view, what kind of meaning do these things and colours represent?

Directions and guidance were given before the painting; students were encouraged to project scenarios onto the painting and express all their emotions, thoughts and impressions. (Practical directions and painting collection process could be seen in the data collection section 11.6)

11.5 Piloting

Piloting is essential in establishing the effectiveness of the research instruments. It allows the researcher to identify potential practical problems and gives a chance to make adjustments before the proceeding of the actual study (Robson 2002; Gall, Gall, and Borg 2003). In this research, I have piloted the TSR questionnaire, the teacher interview, the student focus group, the classroom observation and the subject painting activity. The result of the piloting was enlightening, which made me confident about the adoption of the translated questionnaire in different language environments. It also helps optimises the process of teacher interview and student focus group and improves the descriptive questions in the subject painting caption to make it more detailed and specific. In this section, I outlined the procedures of the pilots and the adjustments for the practical data collection.

11.5.1 The pilot of the questionnaire

The pilot of the questionnaire was conducted in October after the test and translation of it. My two previous colleagues and six of their students in China participated in the pilot; they were interested in it and willing to be volunteers. The students were also from different academic achievement levels (high, medium and low). The electronic version of the Chinese TSR questionnaire was sent to the teachers, and they finished the teacher subscale, meanwhile, asked the students to finish the student subscale. The questionnaire's results were anonymous, and students were represented as number 1, 2, 3. After that, I conducted a brief interview with them to see if the results and scores of the questionnaire were a true reflection of their perceptions of the hypothetical goal. From the participant teachers' and students' view, the questionnaire was easy to understand and did not contain ambiguous expressions. All the teachers and students agreed that the questionnaire had a good reflection of their overall perceptions. The pilot result also increased my confidence in the reliability of the questionnaire.

Considering the consistency of the introduction of the questionnaire to hundreds of participant students, a short explanation of the questionnaire was added after the title of the Chinese version questionnaire. The explanation is:

‘Note: There are 14 questions in this scale, including nine positive questions and four negative questions. The negative questions may involve some sensitive topics. The teacher also believes that negative situations are rare, but their existence can better help get accurate results and help more students in need in the future. I hope you can follow your true feelings and check the right answers in the five boxes below and tick "✓". Thank you very much.’

From the questionnaire result, It can be speculated that the teachers and students were quite honest in answering the questions in the questionnaire since they were straightforward in responding to some negative questions (like one teacher admitting that she was unfair to a low academic achievement student sometimes). In general, the pilot of the translated Chinese version questionnaire made vital contributions to the practical adoption of the TSR questionnaire.

11.5.2 The pilot of the teacher interview

The pilot of the teacher interview was conducted in October 2019 after I got back to China. I invited a previous colleague, who is also an excellent teacher rewarded by the city educational authority as an ‘Excellent Teacher’, to join my interview pilot. She was also interested in the interview and willing to be the volunteer. I transcribed the interview recording and translated part of it (see **Appendix P**). The result is promising but also revealed several problems with the interview. Firstly, some of the interview questions were not easily applied to the teacher’s experience at the very beginning of the interview talk. Thus I changed the strategy and talked briefly about the teacher’s class and students to get basic information about the teacher’s work and help her to remember her memories in interaction with the students. In the field research, I was more cautious about pre-communication to facilitate the later interview and classroom observation. Secondly, when the teacher was talking during the interview, she sometimes came directly to another question, which is associated with the topic but not in the sequence of my interview questions (e.g., for the fourth question, the teacher finished answering sub-question one, then jump directly to sub-question three). I got slightly confused and missed sub-question two, which reminded me that I need to get more familiar with the interview questions and develop a more wholesome interview scheme. Thirdly, sometimes the teacher was talking about something beyond the interview questions or gave too much detail about certain things. I realised it and tried to steer the participant back to the interview questions. It reminded me to refine the time schedule of the interview further and be more careful about controlling each interview question.

11.5.3 The pilot of the student focus group interview

The pilot of the student focus group interview was conducted in November 2019 after I returned to China. Since it is difficult to communicate with primary school students without permission from the school, the teacher and the parents, I sought volunteers from my previous students. They were in middle school at that time and had many lessons (they will generally stay at school from 7 a.m. until 9 p.m. on weekdays; they have more lessons and homework at school now). Thus it is much more challenging to get many student participants. Fortunately, I still found two volunteers, and we had online chats to do the focus group interview. Compared with the difficulty in getting participants, the student focus group interview process was enjoyable and the results were quite exciting. First, the students said that the interview questions were easy to understand, and they had many feelings to express about the TSR and the distinguished teachers. I transcribed the interview recording and translated part of it (see **Appendix Q**). This pilot is good because it highlighted that the students have rich feelings and attitudes towards the teachers, which also underlined the importance of exploring TSR from the students' perspectives, as I plan in this research. To refine the student focus group interview questions to extract more valid data, I made some corrections with the questions (e.g. I can ask the students about 'other aspects of the teachers, like worth respect or admire'. 'Do you feel you got influence from the teacher?' or 'What' the influence the teacher have on you?').

11.5.4 The pilot of classroom observation

The pilot of the classroom observation was conducted after the interviews pilot. Due to the time limit and the geographic distance, the classroom observation pilot could not be done with the teacher and students in the interview pilot. But I managed to find volunteers in a rural primary school and observed a Chinese class in grade 5, which is almost exactly the same type as the target field research participants. The observation was focused on the teacher's words and strategies, students' engagement and reaction, and social interaction between teacher and students, based on the classroom observation scheme. The pilot of the classroom observation was valuable and led to me refining it in this way:

1. Regarding the classroom observation, I have to say the class is good in pedagogy, but I expected more teacher-student interaction. Maybe I should also observe a class lesson (the lesson that the teacher will discuss more things about the class and the students, not only focus on the knowledge teaching.

Also, I can ask the teacher when will he/she have more communication with students, like the time before the first class in the morning or the time after class, and then observe it.)

2. The lesson might be some point not like a daily class, because the students were aware of my presence, which might have affected their behaviour. To overcome this problem, in the practical field research data collection, I gave them advance notice of my presence and explained that I was not there to evaluate them or the teacher, to release their pressure and observe a more natural lesson.

3. The lesson from this teacher is a peaceful one; the students are engaged in the studying and do not show any apparent emotion. But my personal experience shows that primary school students are more excited in interesting classes. This situation also hint me to have previous contact with the students in the practical data collection to reduce the students' nervousness in the suddenly appeared researcher outside of their familiar school environment.

4. This underlines the importance of student interviews to ask for students' attitudes and feelings about the lesson.

These thoughts highlighted the importance of pre-communication with the observed teacher and the class. Before conducting the field research, I had further communication with the observed teacher about the occasion when he/she had the most interaction with the students and made more preparation for the communication with the students in the classrooms.

11.5.5 The pilot of subject painting

Similar to the student focus group interview, finding volunteer students was not easy. But I still tried to have the pilot conducted with two of my previous students. A noticeable thing would be the time consumption of the painting because the students promised to give the painting to me in one week, but she could not finish it in one week and actually spent two weeks on it. She mentioned that partly because of her heavy school work and partly because of the conception of a painting on a subject would also demand considerable time. This experience reminded me of the practical situation, and I changed the painting collection plan to give the students more time to finish the painting in the practical data collection.

Another refinement of the procedure should be the caption (description) of the painting. In the pilot, I asked several simple questions after I got the first painting. I think the student's answer is good, but I think I can ask more, or have some corrections about the subject of the painting, to get more valid data

for the research questions. The pilot also reminded me about the possible situation that the students might not provide a sufficient caption about their painting; I was considering about adding a further step to enrich the painting caption, depending on the practical results. The second pilot painting (see **Appendix S**) is beautiful. I found that without the student's specific explanations, I could not clearly understand their feelings and what they wanted to express in the painting. Thus three questions for the caption were developed to better understand the student's thoughts on the painting:

1. What story does the picture tell/what scene does it depict?
2. Why did you draw it like that?
3. In your eyes, what do the objects or colours in the painting represent?

These three prompt questions for the caption were also piloted by the student who did the second painting. She expressed that with the three prompt questions, she could give a clearer caption about her painting and basically express her feelings and thoughts in the painting clearly. Thus in the practical data collection, the caption with three prompt questions was adopted in the subject painting activity.

11.6 Data collection

In 2020, the pandemic locking down of the Guangdong Province (where the field research was conducted) had been gradually cancelled since May. The schools re-opened, and students went back to school. Considering the influence of online education and the re-construction of TSR, the data was collected in the autumn term, which started in September 2020. The participant schools teachers and students were recruited in October, and I actually went to the participant schools in November. At this time, the teachers and students had resumed face-to-face school teaching for six months. They had entirely gone back to normal school life. This is trying to minimise the forced online education during the pandemic and better explore the nature situation of TSR in the school.

Data collection schedule in the two participant schools could be seen in Table **11.2** and **11.3**.

Table 11.2 School 1 data collection records

Item	Participant	Place	Date and Time
TSR questionnaire	3 teachers and 122 students	Classroom	9.11.2020
Classroom observation 1	1 teacher and 41 students	Classroom	9.11.2020
Classroom observation 2	1 teacher and 41 students	Classroom	11.11.2020
Student focus group	14 students (2 groups)	Classroom	10.11.2020
Subject painting	34 students	Classroom	10.11.2020
Teacher interview	1 teacher	Meeting room	12.11.2020
Classroom observation 3	1 teacher and 41 students	Classroom	12.11.2020

Table 11.3 School 2 data collection records

Item	Participant	Place	Date and Time
TSR questionnaire	3 teacher and 128 students	Classroom	14.11.2020
Classroom observation 1	1 teacher and 45 students	Classroom	15.11.2020
Classroom observation 2	1 teacher and 45 students	Classroom	15.11.2020
Student focus group	31 students (5 groups)	Classroom	16.11.2020
Subject painting	14 students	Classroom	16.11.2020
Teacher interview	1 teacher	Meeting room	17.11.2020
Classroom observation 3	1 teacher and 45 students	Classroom	17.11.2020

11.7 Analysis

The data analysis procedure in this research was operated in two separate but internally related parts: quantitative orientation (survey) and qualitative orientation (interviews, class observation, focus group and subject painting). For the quantitative orientation, the data were organised and analysed using SPSS; for the qualitative orientation, the data were analysed by content-analysis in the fields of TSR combined with the data from other sources.

11.7.1 Quantitative Orientation

Survey/Questionnaire

The main research question from the quantitative data is the current TSR state between teacher and student, from both teacher and student perspectives. It is examined empirically through the data provided by the teacher and student questionnaires. The first step of the quantitative analysis was to check the reliability of the questionnaires by grouping the related items into broader conceptual categories; *Cronbach's Alpha* coefficients were tested for the purpose of reliability analysis. After that, the data from questionnaires in each school was analysed by adopting descriptive statistics, including the mean and standard deviation, on the class level. Then the statistical descriptive (mean/SD) test were conducted between the classes in each school to identify the class/teacher with the highest TSR with all students (this is the process to identify the current successful teacher for further qualitative exploration later).

This step is (a) intended to investigate the TSR situation in Chinese primary schools, (b) explore how teachers and students grade each other, and (c) identify the current successful teachers for further research procedures (interviews and observation).

11.7.2 Qualitative Orientation

Class observation and interviews

Teacher interviews and student interviews were recorded and transcribed (examples of transcribed teacher interview content and student focus groups interviews can be seen in **Appendix W & X**). Data from the qualitative methods was content analysed mainly following an inductive approach. Interviews materials were analysed following Miles and Huberman's framework, which comprise three steps: data reduction, data display and verifying conclusions (Miles et al. 1994). For the initial stage, dividing, compiling and summarising were conducted and followed by understanding, coding, second-level coding and concluding, which was to refine the materials without losing information and try to understand the categories or other results (example of coding and coding categories could be seen in **Appendix Y**). The ultimate stage was to find and explain clues associated with the research questions about TSR to reach credible conclusions.

Except for the independent analysis of classroom observation, teachers' interviews and students' focus group interviews content was matched and contracted to analyse the opinions and feelings from both perspectives. This process could help to see the different conceptions or feelings about the same notion and elicit the diversity in synonyms and meanings (Boeije 2002). To better achieve this, body language and emotional behaviour were also taken into account and recorded in the classroom observation memos to illustrate in corresponding understanding (Bell 2014).

Subject painting analysis

The students' paintings were analysed using content analysis, following Bell's (2001) suggestion in dealing with students' drawing data and other research which uses students' drawing as instruments (Palmer and Education 1997; Buldu 2006). Much qualitative research treats content analysis as textual, whereas Bell proposed a definition that content analysis as an observational and objective approach for the recording of statement and expression. In this study, I was interested in applying content analysis to establish the appearance of words and images within the paintings to convey meaning about the students' conceptions of TSR and its influence. I thought that appearance of significant images would help to identify vital points within the data set.

The coding schema for students' subject painting and caption were primarily adapted from previous research using students' paintings, as mentioned above. The variables were called categories, and the values were named sub-categories. All coding was done at the sub-category level, with the categories providing overarching organisation. A two-step analytic process was used to ensure all words, symbols and themes were accounted for within the coding schema. First, the painting was used to create a list of all the objects, symbols, and keywords visible in the pictures; these became emergent 'sub-categories'. Then, I logically grouped these together into distinct categories and analysed each picture again to refine the arisen 'sub-categories' respectively. For example, in the 'sub-categories' of school supplies, desks, blackboards, computers, and other similar objects were placed in a common category of physical environment artifacts. Iteratively, I reduced the list of discrete objects into more compact categorisations. For example, rather than having separate sub-categories for all drawn school supplies (e.g., pen, pencil, ruler, eraser), I placed these together into one because of similarities in their function and content. The colours of the objects were also recorded, especially the unusual combination (like purple sky and pink air) and the dominant hue of the whole painting, since colours are also key points that students express their feelings and attitudes. The data analysis results were presented in three levels: subject and colour, feeling and emotion, and theme. The subject and colours come directly from the painted pictures; the feeling and emotion were analysed from the caption (accompanied by the students with the paintings), and the faces of the figures that appeared in the painting. The theme as an overall feeling or expression of the paintings was also of great value as data in access to the students' inner world.

Following the pilot study (see section 11.5.5), the painting analysis in this study is trying to answer the research questions better. The appearance of images and words in the students' paintings was established to access their feelings and conceptions of their relationships with the teachers and the accompanying emotions.

11.7.3 Triangulation and analysis of the overall data

The majority of the studies in the TSR area focus on the quantitative associations between TSR and student outcomes, and very few studies have addressed the nature of TSR from both teacher's and

students' perspectives (Roorda et al. 2011; Lei, Cui, and Chiu 2017). In this research, the investigation of the TSR situation from both teacher's and students' perspectives could provide more detailed information in the particular context. The following interviews, observation and painting activity together could (1) provide insights about teachers' concepts of TSR; (2) explore how their conceptions form their teaching strategies and attitudes about students in the construction of positive TSR; (3) gain understanding about the students' feelings and attitudes about the positive TSR, and the way it effects on students.

11.8 Ethical considerations

It is basic academic morality to get official formal permissions from the education authorities, schools and parents if any people are conducting any research related to juveniles and protect them from any immediate and potential harm mentally, physically and emotionally. The researchers are also accountable for all the legitimate rights the participants (in this study, teachers and students) have, including anonymity and confidentiality, voluntariness and freedom of retreat at any point without any reason. The ethical consideration in this research will be deliberately considered and conducted under the principles above.

The participant schools were recruited in China through cooperative study with Chinese normal universities or educational researchers. It could promote the localisation of the study with experienced research groups in the Chinese context, help to get necessary official permissions and benefit the consideration of context culture and educational system. The participant teachers and students were recruited from volunteers in the participant schools, with the passive and active ethic consent strategy adopted (p70) (Dörnyei 2007). For the quantitative part (survey), passive consent was obtained from the teachers since the questionnaire could be completed anonymously. The aim of the survey was to investigate the TSR situation from both teachers' and students' perspectives and identify the current successful teacher from the whole class level. Thus students do not need to sign their names on it. For the later qualitative part (the interviews, class observation and subject painting), active consent was obtained from students' guardian/parents with signatures. The passive and active consent strategy largely reduced the consent work since the participants for the survey had six classes (240-260 students) whereas the qualitative approach was only conducted in two classes (80-100 students).

I have developed the consent form and information sheet suitable for the research process and data collection procedures (see **Appendix U&V**). The information sheet was provided to all participants in the research, including the teachers and students. The whole data collection procedure was also anonymous; students and teachers' names were represented by random numbers. For the survey, passive consent was obtained from the teachers; for the following qualitative part (the interview, observation and the painting activity), active consent was obtained, and the students' consent forms also get the signature from the parents/guardians.

The information sheet provides information about the research and the storage and processing of personal data. Participants were informed that their data was kept in an anonymised form. I also make clear that all primary data generated through survey, interview, observation and painting activity will not be made available for reuse by any other people except the researcher.

Participants were given a copy of the form, and the researcher retained the signed original. Signed consent forms were stored securely in a locked filing cabinet at the School of Education, University of Leeds. Original consent forms signed in China were brought to the UK by me, the researcher, carefully and kept with me at all times.

The participant teachers and students were anonymous and represented by pseudonyms and numbers. I made efforts to ensure that individuals and their institutions could not be identified. The project does not require collecting sensitive personal data (i.e. religious beliefs, political opinions, health, sexual orientation, and race). The interviews, observations and painting activities with teachers and students involved discussing views about other people, some of which may be sensitive interpersonal opinions in nature. In addition, the consent form made it clear that participants do not have to answer all the questions and that they can withdraw at any time.

The data was not disclosed to anyone except the research team during the whole research process. In the survey, the questionnaires completed by the teachers and the students were collected directly by me,

specifically, the PhD student. The interview materials and class observation notes were kept safely. In the focus group, since other students will know a student's words, a prepared notification was declared to the students to protect confidentiality before the group interview. Anyone outside of the research team (like the head teachers of the schools) could not get access to the data. Participant teachers and students also did not get comments or responses about themselves. Inside the research team, the respondents were represented by pseudonyms immediately after the data was collected.

11.9 Reliability and validity

Sensitivity of the research topic

One of the most significant reliability and validity issues of this study is: would the teachers or students be honest about the sensitive TSR questions like 'What do you think of students in medium or low academic achievement level?' or the items in the teachers' questionnaire like 'How unfair are you to <student's name> in class?'. TSR is definitely a sensitive topic; every teacher knows that they should have a positive TSR with the students, not only from the demand of professional ethics but also from the social expectation. The reason that I believe research in this area is accomplishable is that reading previous research about TSR, more than one study mentioned that the researcher themselves were touched by the teachers because they were willing to tell the truth about the situation, even when it is negative (Palaniandy 2009; Fosen 2016). This phenomenon could be explained by the fact that the teachers think that their voices are being heard, so the research and investigation about the practical problems could be a window to bring changes.

Reliability and validity of the Questionnaire

The piloting of the questionnaire also gives me confidence about the reliability of this research. The TSRQ has both positive and negative items; the negative items are particularly direct, for example, with sensitive questions about unfair treatment and conflict situations. Actually, both the teachers and students participating in the pilot are quite honest when answering these questions, which make me hopeful that I will get trustworthy data in the interviews.

- a. I asked several colleague teachers about their attitudes: if they were asked to participate in the survey, finishing the questionnaires for all the students in the whole class. Would they be serious in

finishing them, or would they do it hastily or half-heartedly when they are busy with their daily work? One teacher said that she would be serious because she thought this could be helpful to the students. Two other teachers mentioned that if this survey comes from an individual person that they didn't know much about, they might do it hastily, but if it was introduced by the school authorities, they would take it seriously. The last teacher admitted that even if this came from the school authorities, it is still possible that she might complete them hastily, but if she had been well informed about the meaning of the survey beforehand, she would do the task seriously. Their views therefore argue for the feasibility of the survey, while at the same time, they highlighted the importance of school cooperation and prior communication with the participant teachers.

- b. The peer researcher's opinions also suggest that the practical conducting of this questionnaire is feasible in the research context; cooperation with the school and a certain amount of extra payment to the participant teachers would be facilitators. Since I do not have practical research experience with the teacher participants, I emailed several peer researchers in this area in China, the context, who have abundant practical experience and achievements in this area seeking suggestions. Fortunately, a peer researcher (Professor Meijuan Tan, Department of Epidemiology and Health Statistics, School of Public Health, Central South University, China. email: tanhz99@qq.com) who had just published a research article in the TSR area (Tan et al. 2018) replied and mentioned that they had similar experience asking the teachers to work on questionnaires for individual students for about two hours. In their research, the school is particularly supportive, giving the research group and the participant teachers special time and room for the research; the teachers themselves are also willing to do something to help. The peer researcher stressed that this is not a rare situation; in China, most primary/ middle schools and the teachers would be willing to cooperate in research projects. He also emphasised that cooperation with the school would be essential and suitable payment to the teachers would contribute to a reliable result.
- c. The Time consumption of the questionnaires was also piloted and calculated with the teachers. For 20 questionnaires, a teacher spent 28 minutes completing them carefully. Considering the different speed for 40-50 students and corresponding questionnaires, it is estimated that it will take the participant teachers 55-70 minutes.
- d. In the survey, I have applied for funds (from PGR Student Other Expenses, See **Appendix T**) in order to provide the participant teachers with an appropriate payment for 40-50 student questionnaires. Eight teachers from two schools will participate in the survey. An incentive of £15 will be paid to each teacher for the survey; the total amount would be £120. The payment is suitable

for the local income. Even though, in the actual data collection, the school head teachers strongly suggested that I should not pay the teacher participants. Because they thought this payment would make participating in this research program not like a purely academic activity. Considering about their understanding of the context culture. I followed their suggestions. The payment to the teachers was not conducted.

Furthermore, according to my personal experience as a teacher and a student for years, the majority of teachers have a pure heart and care about the benefit and growth of the students, so they would be willing to do extra work if it is good for the students.

As stated before, the approach I adopt in the focus group interviews and subject painting aims to elicit a more reliable and accurate view of the students' feelings and attitudes. An introductory statement before the survey and interview also helped to get more valid results. In the data collection, the participants took it more seriously after the significance of the research was stated, and their privacy was protected in a trustworthy way.

Chapter 12: Findings of Study 2

12.1 Questionnaire results

12.1.1 Questionnaire reliability analysis

Below (Table 12.1) is the result of Cronbach Reliability Analysis of the student-subscale and teacher-subscale in the two participant schools.

Table 12.1 Cronbach Analysis of the student-subscale and teacher-subscale in the two schools

School 1		School 2	
Student-subscale Cronbach's Alpha (n=122)	$\alpha=0.875$	Student-subscale Cronbach's Alpha (n=128)	$\alpha=0.906$
Teacher-subscale Cronbach's Alpha(n=124)	$\alpha=0.894$	Teacher-subscale Cronbach's Alpha(n=72)	$\alpha=0.918$

After translation in the appeal results test, the questionnaire was also found to have good reliability in both public and private primary schools in China. The Chinese version of Cronbach's Alpha for both the teacher and student sub-scales had excellent values of 0.875 to 0.918. In particular, in the second public school, both scored above 0.9. The validity and reliability of the questionnaire are reliable.

School 2 has a slightly higher value than School 1, and speculation may be related to the nature of the school. Teachers may be relatively more cautious in School 1 in public schools, where teachers may work on a contract basis, and teachers are particularly cautious in responding to Item 13 on whether this would be unfair to students. But teachers in Chinese public schools have authorised strength-type positions, similar to almost lifelong careers. But in any case, the results of this questionnaire in these two primary schools in China demonstrate a good degree of confidence.

12.1.2 Questionnaire descriptive statistics

Table 12.2 Total scale marks Descriptive statistics in different classes in schools 1 and 2

		N	Mean	SD
School 1	Class2 Students	40	66.3	4.82621
	Class7 Students	41	63.3902	6.67787
	Class3 Students	41	66.6098	5.14722
	Class2 Teachers	41	67.0732	4.27428
	Class7 Teachers	42	56.7143	7.41549
	Class3 Teachers	41	57.6829	3.98396
School 2	Class1 Students	44	64.1591	7.02799
	Class8 Students	45	64.6667	7.27386
	Class10 Students	39	58.3846	7.97567
	Class1 Teachers	25	63.32	5.7931
	Class8 Teachers	23	57.7826	6.36722
	Class10 Teachers	24	55.9583	9.69302

(Notes: 5-score Likert scale with 14 items. The full mark for each questionnaire is 70. SD=Std. Deviation)

When collecting questionnaire data from teachers to students, we found two problems. The first question is because the teacher has to fill in the questionnaire of about 40 students in the whole class at one time, which is challenging for the teacher. This situation was considered before the field research. We prepared to pay the teachers for the time they spent on questionnaires. But in the practical situation, When I got entrance into the schools, all the head teachers and the local educational authority staff who helped me recruiting participant teachers and students strongly suggested that I should not pay the teachers, because the payment will make this research project look like a commercial activity than an academic enterprise. Thus the paying teacher participants plan was cancelled. Although these teachers are very willing to cooperate and participate in the research, we still find that one teacher in School 1 give the same score to students continuously in the questionnaire, and such a questionnaire is considered to be prone to produce invalid data. Thus, in School 2, because of the experience of the first school, the teachers were asked to fill in the questionnaires with a single or double student number. So, a total of 128 student-subscale questionnaires and 72 teacher-subscale questionnaires were collected from the three classes in the second school.

In School 1 's questionnaires, I also found that teachers' evaluation of the questionnaire scores of all students in their class is easily affected by subjective ideas, such as overly optimistic evaluation of the relationship between themselves and students or overly optimistic evaluation, resulting in great differences in the questionnaire scores of teachers. After considering all the circumstances, when I finally selected an outstanding teacher, I still decided to mainly refer to the result of student-subscale questionnaire. This is also because the data of student-subscale questionnaire comes from about 40 students in the class. Thus, a teacher from Class 3 in School 1 and a teacher from Class 8 in School 2 were selected as outstanding teacher Case 1 and Case 2 (Table **12.2**). The two teachers and their class of students participated in a follow-up qualitative study, including teacher interviews, student focus groups, classroom observations, and student subject drawings.

12.2 Outstanding TSR teacher and her class: Case 1

Setting for the Case 1

The research setting for this case is conducted in a large private elementary combined junior middle school in a big capital city of one province in China. This school is quite big, with 62 primary and 63 secondary classes, with over 5,460 students and 700 teachers. In the elementary school area grade 4 (students aged 9-10), three class teachers and their students were recruited for the TSR survey. From the survey results, an outstanding TSR teacher and her class were selected as the case. The teacher got an average of 66.61 points on the student's TSR questionnaire (14 items Likert scale, 70 point is the total mark). Rebecca is the pseudonym for the outstanding TSR teacher in participant school 1.

12.2.1 Background, educational conceptions and practice

Rebecca is a relatively young teacher. She is 29 years old, with a Bachelor's degree in Chinese Literature from a Normal University and a Master's degree in Chinese Literature. She was also a new teacher at this school. She had just been teaching at this primary school for five months. Before, she worked at a university, teaching subjects like College Chinese. According to herself, she has a passion for education, and she has social activity experience of 'Supporting Education' (In China, this is a kind of social activity that university students go to extremely unprivileged areas to support fundamental education.) in remote villages. She also has experience visiting South Korea to teach Chinese in a primary school. Rebecca's opinions are written in the present tense to make the reader feel present as the story is told.

Conception towards student education

Rebecca states that some students in Chinese universities feel lost and have unplanned futures during their senior years. She thinks things like this may need to change from the primary school years, starting with fundamental education. She believes that teaching primary school well was also an extremely important thing, and the children at this stage were malleable:

I think teaching primary school needs to be, how to say, you need better educational background, conversely. Because that's the most critical stage for shaping a child's soul.

(T1.Interview /12.11.2020)

Rebecca believes that in addition to teaching the subject, it was vital to take care of the students, especially when you are the classroom teacher. It represents that the teacher is responsible for the students. Some simple concerned language from a teacher to the children can have a prominent effect on them. It could enhance a student's sense of self-acceptance and can also help them to integrate into the classroom community. According to her, the teacher's concern for the students is often converted through communication with the students, and this communication can give the teacher some kind of feedback on the students' state.

Rebecca also believes that the role of the teacher is distinct from the mother, and there is a theory that relates to this called the 'mothering theory'. The teacher cannot take for granted that she is the child's parent, but can take some responsibilities on behalf of the parent, such as caring for and protecting the student. But the teacher does not have the same power as the mother in terms of punishment, as Rebecca states:

We don't have the right to act as a substitute for their mothers or exercise some of the rights only mothers have. For example, there were times when I was extremely angry, I might do an exaggerated action, but a light hit [on the student].

(T1.Interview /12.11.2020)

Rebecca articulates that she views her role more like a medium to make the students want to learn and figure out the fascination of knowledge. She believes that her work should be able to make the students learn better through appropriate ways so that the beauty of knowledge can shine through. A teacher's job is not for life; a teacher would only teach a student for two or three years or no more than six years. So a teacher needs to do a good job guiding the students to the hall of knowledge so they can recognise the beauty of knowledge and let it gravitate to students.

First of all, we are not as fascinating as knowledge; it is always the knowledge that leads the children. Yes, we just do the role of a guide.

(T1.Interview /12.11.2020)

Conception towards TSR

Rebecca believes that the teacher-student relationship is quite important. She would also use the students' willingness to communicate with the teacher as an indicator of how good the relationship is. She thinks students would care about the teacher's words and attitudes when the relationship is good. If there is a good relationship, students will be more inclined to do what the teacher expects. For example, when she has a good relationship with her students, she expects them to do better in their daily behaviour and hygiene requirements, and the students are more willing to do it, as she recalled:

Whenever there is any kind of inspection [like hygiene inspection], one child talks about it, and the others immediately take special care to do it well. They are not willing to lose scores for the class, even if it's only one score like that. The teacher talked about it at once and then they were all willing to do it. They did care a lot about your words, or how you felt.

(T1.Interview /12.11.2020)

Also, Rebecca thinks that often you could not explain all the reasons to the students why they should follow your guidance and keep discipline. At this time, the students might be unwilling to follow your guidance. But with a good teacher-student relationship, students are sometimes more willing to behave well in order to gain the teacher's closeness and favourable impression.

Conception and educational practice

Rebecca places great importance on communication and interaction with students after class; she is also happy to do so. She values an equal position in communication with the students. She believes that communication and interaction with students lead to better integration with the student group.

What I really recommend is the idea of having a little chat with the child outside the classroom about something that has nothing to do with studying, a little chat, not a real conversation, maybe just a passing-by chat. For interpersonal communication, I would like them to be able to communicate more with the teacher about their daily life after class, rather than the teacher only existing in the lessons.

(T1.Interview /12.11.2020)

She would try to consider all the students in the class and, where possible, have some communication with each of the forty students in the class. She would also periodically consciously review which students they had less communication with over the period and actively seek opportunities to communicate with such students:

The students do have different kinds of problems. It's hard for a teacher who teaches more than 40 students to handle all communication aspects. So I can only try to communicate with different students every week. It might be in the classroom when I call them up to answer questions or give comments about their answers, or it's just passing by and patting them, talking

to them. Or maybe talk about what happened this week. Or maybe individually, arrange him some kind of tasks, like this. I'll try to communicate with the students on a wide scale....

(T1.Interview /12.11.2020)

Rebecca also pays attention to students' psychological status in her communication with the student. She appoints two student psychological assistants, one girl and one boy, in the class to observe the students. If a student was not in a normal state of mind, for example, crying, the assistant will tell her and she will then find time to talk to the student individually, comfort him/her, help to solve the problem and communicate with the parents.

I would definitely take the time to call him over afterwards to ask about the situation, reassure him, ask him what needs to be done to solve the problem, and then also communicate with the parents in time.

(T1.Interview /12.11.2020)

Rebecca would also consider students' different psychological personality traits in interacting with them. For those who were relatively extroverted and happy to interact with the teacher, she would be delighted to interact with students when those students started a conversation. But for those students who are relatively introverted, who have some self-abasement, or who are stressed about their studies, she would not approach those students too actively. They thought that their communication might have negative impacts, as Rebecca noted:

Our class has several vulnerable students; their parents know that they are vulnerable, and some students are seeing a psychiatrist. Like these students, I will not take the initiative to go to them to communicate because their self-abasement level is quite high. For those students, I won't

communicate too much with them because I think my communication with them may cause psychological pressure on them.

(T1.Interview /12.11.2020)

Conception and educational practice on student correction

Rebecca considers students' psychological capacity when criticising them after students' mistakes. She says she felt that criticising and guiding students was an important thing to do and needed to be especially careful. She adopts an approach that places the subject of blaming and criticising in the student group instead of simply the individual student. She believes that in this way, students can tell what is right and wrong but not have too much psychological pressure and the burden of being criticised. She believes this approach is less damaging to the students compared with other teachers' individual criticism, which might have a somewhat overloaded punitive effect on individuals. As she expresses:

Sometimes I will be pretty angry during the lesson, but the target I get mad with must not be the individual student but the collective group. In this way, I can let them know that this matter is incorrect, but meanwhile, I can weaken their major sense of guilt. So this will only have an effect of exhortation, that is, understand that the teacher does not allow this matter.

(T1.Interview /12.11.2020)

Rebecca indicates that she generally used less punishment and more encouragement when criticising and correcting students' mistakes. When criticising a student, the focus is also generally on the student's behaviour and habits, and rarely on the student's poor academic performance, as Rebecca comments:

I need his attitude to be positive. You can have poor grades, but your attitude is good, well then I will think that's OK, and I will not criticise you. But if your behaviour and habits are poor, for example, if you can't finish your homework at the weekend, I'm sure I'll criticise you severely no matter if you have good grades or not.

(T1.Interview /12.11.2020)

Rebecca would also make conscious efforts to develop students' ability to resolve disputes independently. She thinks that this will benefit their future life in society:

You should stress the need to apologise for making a mistake and tell them what they should do and what they should not. This is the right thing. If you emphasise this and they don't do it, I will go over and redress the scales for you immediately. The teacher can redress the scales for you now; when you leave this school, the teacher can no longer redress the scales. When you become older, and no one is around you, who can do it for you?

(T1.Interview /12.11.2020)

12.2.2 Satisfaction, motivation and engagement

TSR could broadly impact students' attitudes towards the subject, especially the main subjects. Positive TSR could improve students' satisfaction and exception towards the subject, whereas a very strict teacher or teacher that students don't like could significantly decrease their satisfaction and exception. In the positive TSR teacher's lessons, students' engagement and motivation are also increased. This

section will present the results of students' feelings and attitudes towards Rebecca's lessons and other teachers' lessons.

TSR influence students' attitudes

From the students' views, most students' (six in S1.FG1 and five in S1.FG2) enjoyment of the main subjects (Chinese, mathematics and English) is mainly related to the teacher. As one student articulated:

I would more like Chinese because I would more like the Chinese teacher.

(S1.FG1 /10.11.2020)

Other subjects such as music, art, PE and computer are often related to the subject. According to the majority of the students (four in S1.FG1 and five in S1.FG2), they gave reasons for loving these subjects were not because of the teachers but associated with the features of the subject itself. For example, in computer classes, they can have time to play games at the end of the lesson, and in PE classes they can do their favourite sports. The main subject teachers have much more interaction and lesson time with the students compared with other subjects. Thus students' TSR with the main subject teacher could largely influence their feelings about the main subjects. The other subjects have relatively fewer lessons and teacher-student interaction. Normally the students have seven main subject lessons and two other subjects each week, not including after-class interaction. The students could see the main subject teacher every day, especially the class teacher.

Since the students in the focus groups came from Rebecca's class, most of them responded that they enjoyed the Chinese class more. The main reasons for liking Rebecca were fun, gentle and caring. A small number of students (two in S1.FG1 and one in S1.FG2) liked the teachers of other subjects for reasons such as being humourous, gentle and strict. It was also astonishing to get quite a few statements

from students that they did not like a subject, mainly because the teacher was too severe or a little bit fierce and used foul language:

... it's just, Maths is the subject we hate the most because the teacher often uses bad language.

(S1.FG1 /10.11.2020)

Another student added:

It could be 50 sentences of bad language a lesson as much.

(S1.FG1 /10.11.2020)

Students' attitudes towards the classroom were also linked to their feelings towards the teacher; they will enjoy the lesson because they like the teacher. One student stated:

I like the Chinese teacher. You will be in a good mental state when you are learning Chinese. You will look forward to the Chinese lessons. You will be happy when you have Chinese lessons, and you will want to have Chinese lessons for your whole life.

(S1.FG2 /10.11.2020)

And her words were echoed by several students in the affirmative.

When asked how they felt about other lessons compared to Rebecca's Chinese lessons, several students expressed the view that some teachers were too strict, making them feel bad. Most students in the groups agreed with the statement in a positive tone:

These teachers' lessons are over too strict, and I don't think the feeling and learning experience is very good. I also do not expect these teachers' lessons.

(S1.FG2 /10.11.2020)

Positive TSR improves students' satisfaction and expectation

When asked how the students felt about Rebecca's lesson, almost all of the students (seven in S1.FG1 and six in S1.FG2) answered 'very good' immediately. Their tone of voice was also very firm. They felt that Rebecca' Chinese lessons were interesting, not boring and that they liked them (like in the painting Fig 12.1) and looked forward to them. As one student commented:

Learning Chinese is good in mood. I look forward to Chinese lessons. I will be happy when I have Chinese lessons. I want to have Chinese lessons for the rest of my life.

(S1.FG2 /10.11.2020)

I used to really want to throw up when I saw Chinese and didn't like it, but now I like Rebecca, like it to heaven.

(S1.FG2 /10.11.2020)



Fig 12.1 Rebecca's student painting No.13/10.11.2020

(Painting Caption: In class, Rebecca asks a question, and I raise my hand to answer. Because I really like Rebecca's lessons. I want to show my enjoyment of Rebecca's lesson.)

When the students were asked whether this feeling of looking forward to Rebecca's lesson was noticeable compared to other classes, almost all of them (six in S1.FG1 and five in S1.FG2) thought it was. One student in one group said the expectant feeling was not obvious; it was contradicted by almost all the other students in the group. The other students said that it was obvious in an emphatic tone.

There were two main reasons why students preferred Rebecca's classroom: firstly, they found her classroom very lively and interesting, compared to some other classrooms, which were more boring:

I don't think the teacher I used to have, really, had not any fun at all.

(S1.FG1 /10.11.2020)

Because of our previous Chinese teacher, he spoke in a voice equivalent to a robot talking. It was that his voice had no rise or fall.

(S1.FG1 /10.11.2020)

Another reason was that, in contrast, some other teachers were particularly fierce and might physically punish the students. Rebecca, on the other hand, usually would not get angry with the students even when students do poorly on tests:

Our previous Chinese teacher, if anyone disobeyed, would use a very big and very long kind of umbrella and just hit him. He even took a triangular ruler to hit one student, and the ruler was broken. I was really scared of him.

(S1.FG1 /10.11.2020)

Positive TSR improves students' studying engagement and motivation

Compared to other courses or previous teachers' lessons, most students (five in S1.FG1 and four in S1.FG2) reported that they were more active in Rebecca's lessons and had a higher engagement, including concentrating on the class content, actively thinking and raising their hands to answer teacher's questions.

The students in the two focus groups almost unanimously believed that they were more attentive and focused in Rebecca's lessons. They responded to this question in a very consistent and firm tone and felt that the atmosphere in the classroom was good. Students felt that the teacher's lesson was active. In

S1.FG2, one student said they were interacting lively with Rebecca in her lessons, raising hands and speaking up, and he felt that all the students were thinking together. His words get approved by almost all the students in the group:

We will be very concentrated in Rebecca's lessons, raising hands to answer questions practically actively.

(S1.FG2 /10.11.2020)

Another student stated following him:

Yes, there weren't many people [raising hands] in Maths and English lessons. In Maths and English lessons, hardly anyone raised their hand, and the teacher had to answer it him/herself.

(S1.FG2 /10.11.2020)

As concluded above, being too strict and criticising students inappropriately are the reasons students gave for disliking a teacher. These traits might harm students' motivation and engagement in the lessons. Some students also mentioned that in some other lessons, some teachers would harshly criticise students when they answered a question incorrectly. The students would be a little bit afraid to answer questions:

I was still a little bit afraid to raise my hand in Maths class. I have the answer, but I'm afraid it will be wrong.

(S1.FG2 /16.11.2020)

But the consequences of responding with a wrong answer in Rebecca's lessons were not serious. One student stated in comparison:

But we are not afraid of giving wrong answers in Chinese lessons.

(S1.FG1 /10.11.2020)

Several other students in this group heard this comment and gave an approving response: 'Yes'.

12.2.3 The reasons that students like the teacher

When the students were asked which subjects they liked, almost all of them were quick to say the subject taught by Rebecca. In S1.FG2, all students said the subject in the same breath. When the students were asked why they liked the lesson or the subject, they all responded with factors related to the teacher. The majority of the students' preference for the outstanding TSR teachers Rebecca was positive and widespread and their preference for the subject was mainly related to her. The reasons students give for liking Rebecca include interesting, caring, reasonable and acceptable criticising, gentle and patient, and adopting good teaching methods. In this section, these reasons will be elaborated in detail with students' comments and memories.

Interesting

In S1.FG1 and S1.FG2, almost all the students (seven in S1.FG1 and six in S1.FG2) declared that they liked Rebecca because she was interesting or her lessons were interesting. In the students' description, this sense of fun was mainly reflected in three aspects: the nature of the lessons, the daily interaction between the teacher and the students, and the way the teacher gives feedback.

Some students talked about Rebecca's lessons were lively and interesting. When the lessons were started with a roll call, the relatively monotonous tasks in Rebecca's classroom could become a mini-game like testing the students' reflexes, which the students said they enjoyed. In the teaching process, students felt that Rebecca could also bring you into the scene of the text with lively and interesting language or some acting, as these students recalled:

She can cheer us up in class, and it feels fun to act it out together.

(S1.FG1 /10.11.2020)

Classes are quite immersive; it's like when she teaches a text, she could bring you into that text. It is just more interesting.

(S1.FG1 /10.11.2020)

Students' feelings about the interesting lessons could also be seen from the subject painting Fig 12.2:

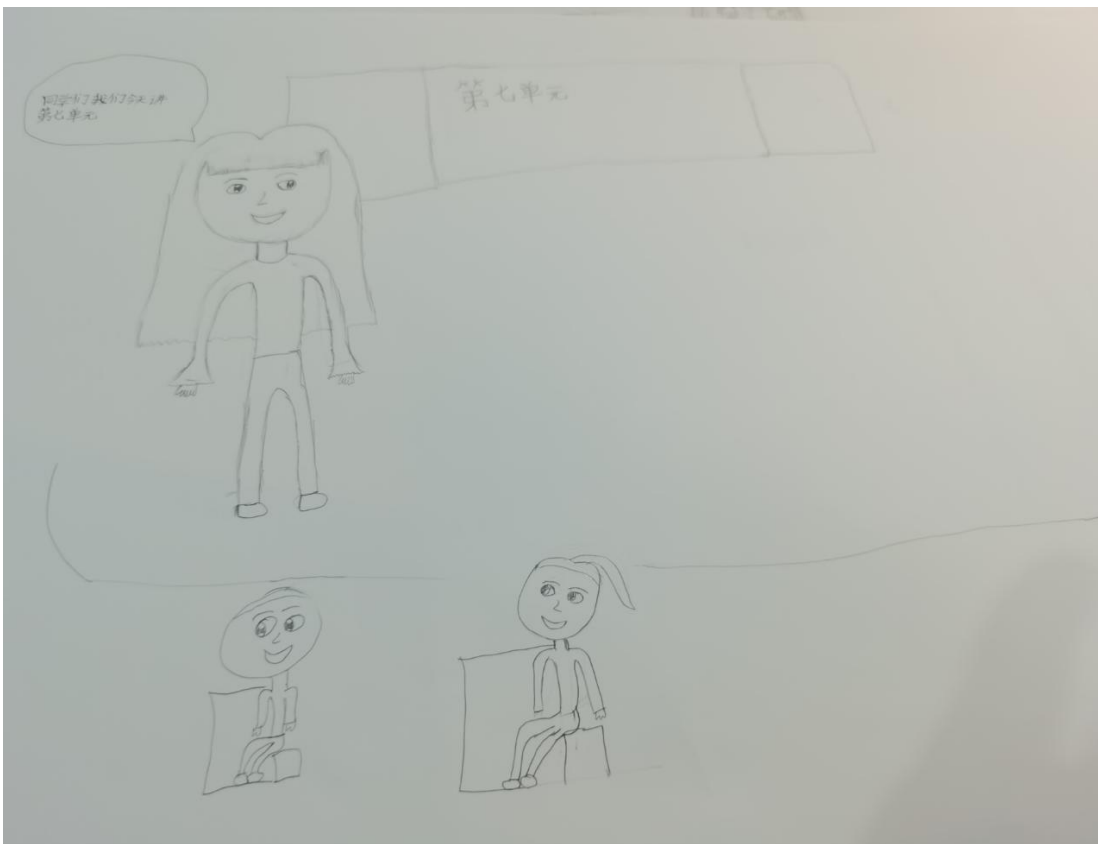


Fig 12.2 Rebecca's student painting No.23/10.11.2020

(Painting Caption: Rebecca is teaching us a lesson. I am drawing this because her lessons are very interesting.)

A fun idiom puzzle game approach could be used when teaching something else, such as idioms. This teaching scene was seen in the classroom observation, and the students were very excited to join this teaching game session, raising their hands enthusiastically, paying attention and participating well in class. The students also mentioned that sometimes Rebecca would tell jokes to stimulate their interest in the lesson.

The 'interesting' of Rebecca is also reflected in her interaction with students during and after class. Students said that sometimes Rebecca would chat with the students after class, with rich or even a little exaggerated body language, which the students found funny. Some students also stated that they found Rebecca interesting because she sometimes played with toys and popular games with the students after class. When asked what kind of game, the student brought out a toy similar to a gyroscope, but made from a plastic milk bottle, the students' daily milk, and demonstrated how to play it in the open area outside the classroom.

Another reason why students thought Rebecca was interesting and liked her because she adopted a fun approach to correcting students' mistakes. Students gave two imposing examples. The first scene was when the on-duty student forgot to turn off the light bulb in the classroom after school, leaving the light on the whole night (In China, children are taught from an early age to turn off lights when they are not in use to save electricity). But instead of directly criticising the student for not doing his duty, the teacher wrote doggerel on the blackboard to teach the student:

4336 did not turn off the light

The problem lies in the student on duty

How to solve, how to solve?

Student on duty, student on duty

(S1.FG1 /10.11.2020)

The doggerel has rhythm in the Chinese language and reads funny. The other example is that when the students were practising declamation, several students adopted a prolonged improper voice. The teacher did not directly forbid and criticise the students but said:

If I use a prolonged voice in my lessons from now on, would that be okay?

(S1.FG2 /10.11.2020)

They recalled that they all answered “No!” in unison, and the whole class laughed. After that, no one read with such a prolonged voice. Several students commented that this way of education made them feel interested and easy to accept, and it would not embarrass them.

Caring

In the two focus groups, about half of the students (three in S1.FG1 and four in S1.FG2) said they liked Rebecca because she cared about them. This included taking care of students when they had physical or psychological problems, helping students with difficulties, and sharing snacks on students’ birthdays.

Two students recalled specific incidents where the teacher cared for them, with several others echoed. If a student were feeling cold, the teacher would give the student her coat to cover her. Some students mentioned that they were impressed with this scene: if a student cried because of physical factors such as feeling discomfort, or psychological factors such as being stressed and missing their mothers, the teacher would be particularly concerned and would try to calm or help the student. For example, this student told of an incident that impressed him most:

There was a sports rehearsal once before, and suddenly I had an upset stomach and cried, then Rebecca saw me. She came over to me and asked how I felt, asking me, 'Does your stomach still hurt?'

(S1.FG2 /10.11.2020)

Rebecca also cared for and helped students when they encountered some minor difficulties. When one student forgot his stationery and book in the examination hall and couldn't find them, Rebecca gave the student her personal stationery and book, hugged the student, and comforted the student saying, "It doesn't matter. I'll give you mine". There were also times when the students had a hard time because of the penalties and fines given by other teachers. Rebecca helped the students communicate with other teachers, hoping to reduce the re-writing punishment and asking the students to promise not to make the same mistakes again. The students said after that, they did not make any more mistakes.

Rebecca would also bless the students during their birthdays and give the students her personal snacks as presents.

Reasonable and acceptable criticising

Criticising students and correcting their mistakes with proper reason and in an acceptable manner is important according to the students' views. In the focus groups, the majority of the students (four in S1.FG1 and five in S1.FG2) articulated that they like Rebecca because she would not be angry and criticise them for no reason, compared with some other teachers:

It's mainly because the previous teachers were often very mean and strict. Rebecca is not like this at all; she rarely becomes strict, except when she is angry and strict because of the breaking rules.

(S1.FG2 /10.11.2020)

Rebecca will not become strict for no reason. She will be strict when we have wrangles during the lesson.

(S1.FG2 /10.11.2020)

The approach that Rebecca adopted in correcting students' mistakes is also good, in the students' opinion. The mistakes criticising manner agreed between Rebecca and the students was to choose a piece of music to dance in front of everyone. The students thought this was a good form of criticising, including the interesting form of doggerel and mistakes imitation described earlier. Students felt it made them less embarrassed, and more willing to accept and correct the mistake. After criticising a student, Rebecca would comfort the student even though she was already unhappy herself. One student recalled this impressive situation with three other students echoed:

On one occasion, Rebecca was criticising someone, but she started to shed tears. After that, she was still comforting the student. I was quite impressed at that time.

(S1.FG1 /10.11.2020)

Personality: soft, patient and childlike

A few students (two in S1.FG1 and one in S1.FG2) also mentioned that they liked Rebecca because they felt she had a good attitude towards the students, was polite and did not use bad language. They felt the teacher was a good person, gentle in the daily teaching and strict when she should be.

Another personal trait that was mentioned a lot (three in S1.FG1 and four in S1.FG2) was patience, and it could also be seen in one student's painting (Fig 12.3). Students thought the teacher is patient because she often guided the students without being pushy. In comparison, they thought the impatient teachers would easily scold students.

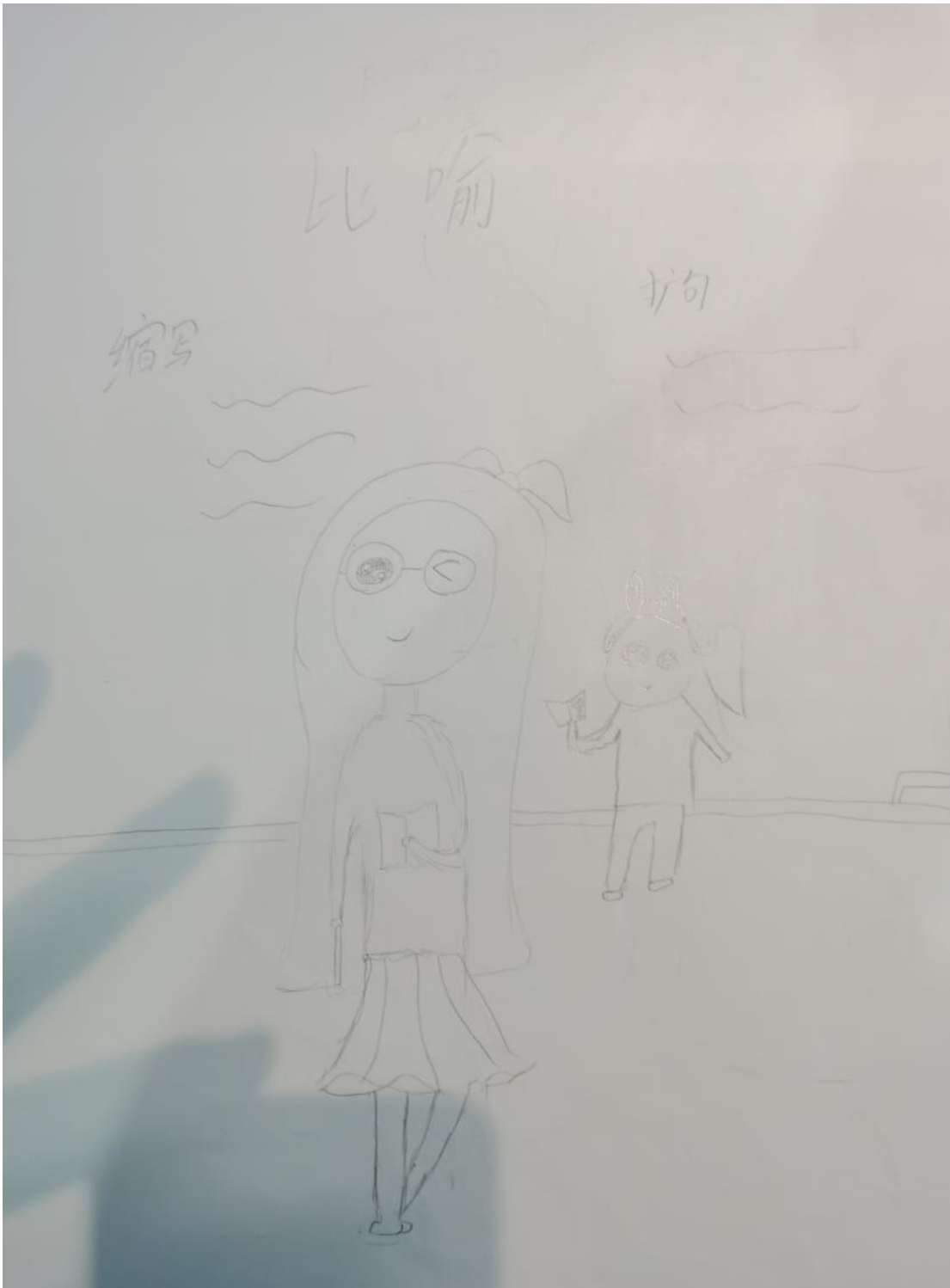


Fig 12.3 Rebecca's student painting No.12/16.11.2020

(Painting Caption: I am asking Rebecca a question. She is always patient. I really like her.)

Innocent is also one of the reasons that make the students like a teacher (Fig 12.4). Several students (one in S1.FG1 and two in S1.FG2) felt that sometimes the teacher was innocent and like their bigger friend:

On one occasion, a student drew a heart on the blackboard. But he forgot to erase it, and the teacher saw it. Instead of criticising the student for drawing on the blackboard, the teacher smiled and said the drawing was very loving. I then thought the teacher was cute, young and innocent.

(S1.FG2 /10.11.2020)

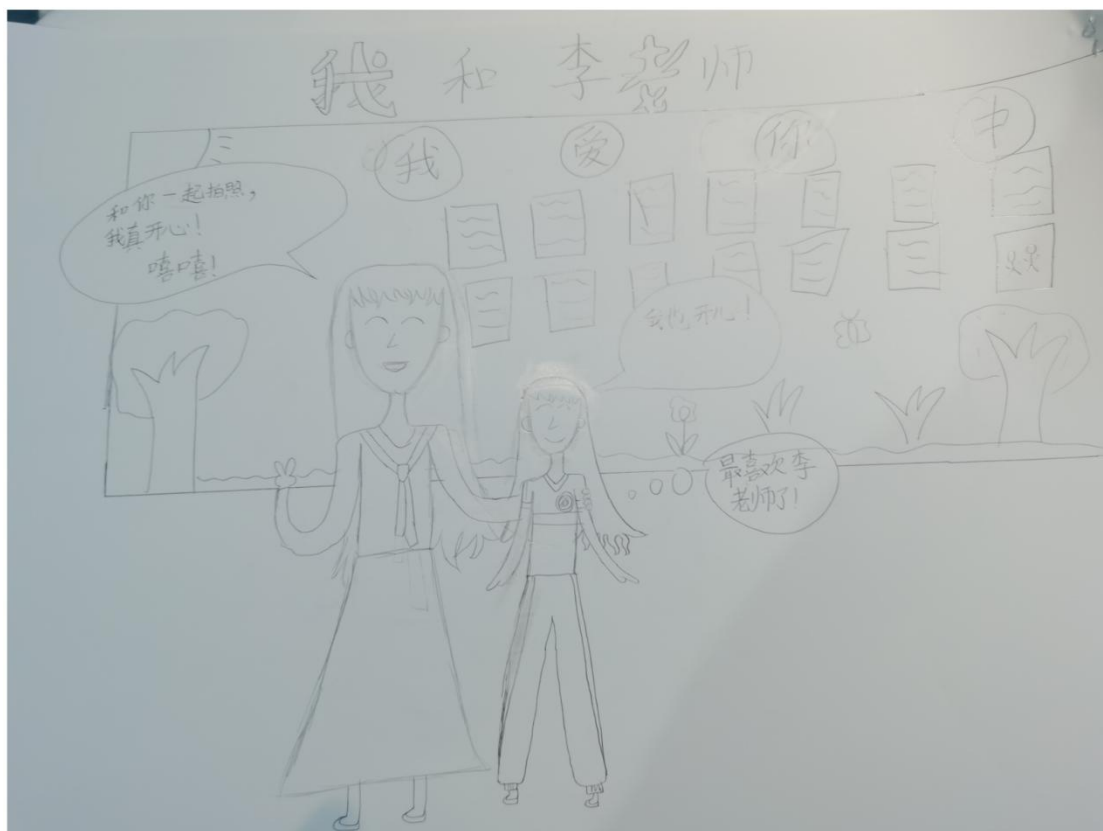


Fig 12.4 Rebecca's student painting No.7/10.11.2020

(Painting Caption: I was happily taking photos with Rebecca. I think she is innocent at this moment. She always did good painting on the blackboard. We are laughing; we like each other.)

Dedication

One student also did a painting about Rebecca sacrificing personal time after work, accompanying him in doing homework (Fig 12.5):

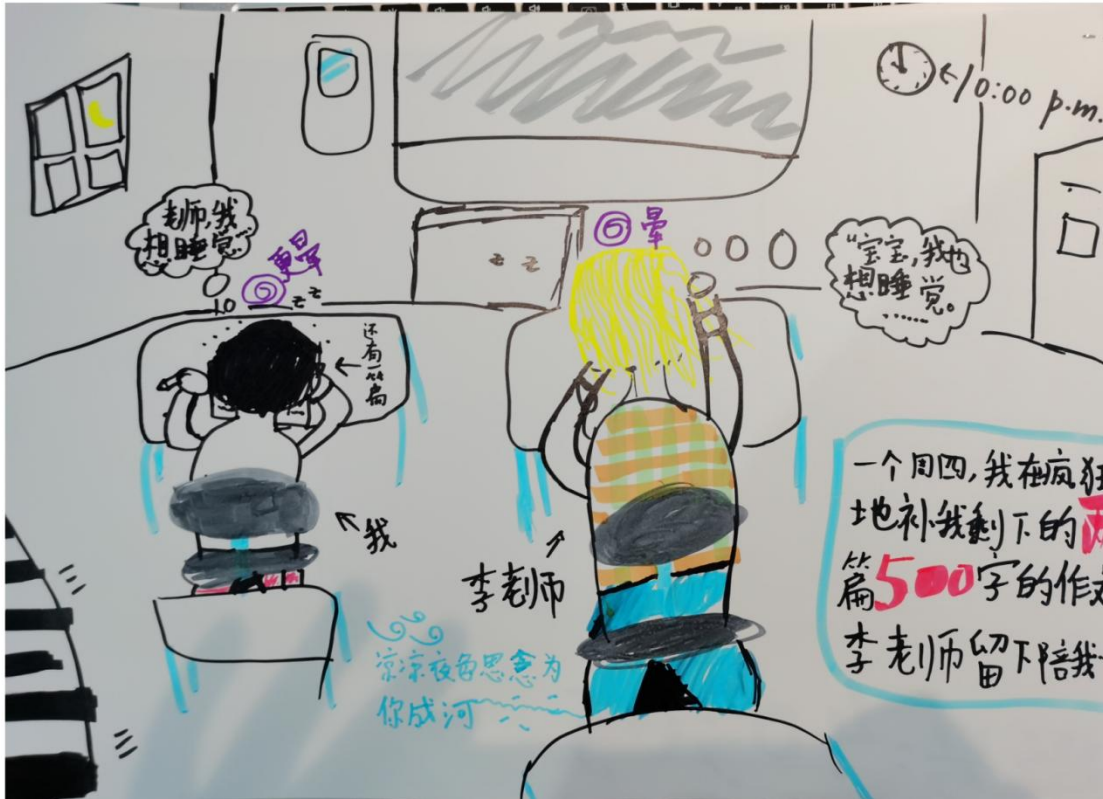


Fig 12.5 Rebecca's student painting No.10/10.11.2020

(Painting Caption: A Thursday, I was insanely writing an unfinished essay. Rebecca stayed and accompanied me. I was very impressed at that time. The Chinese in the painting means: Student: 'Teacher, I want to sleep.' Teacher: 'Baby, I also want to sleep.')

Amiable interpersonal communication

Rebecca would also joke with students when interacting with them, being easygoing with some normal physical contact, like gently touching students' heads or hair occasionally. Several students (two in S1.FG1 and two in S1.FG2) stated that they felt comfortable and close to Rebecca and had good interpersonal communication with her, like in this painting Fig 12.6. It is also interesting to know from

the students that Rebecca would always spend extra time before after class to communicate with students, and this was echoed and agreed by almost all the students in the focus groups:

Rebecca always comes to the classroom during the rest time, talking and playing with us.

[Another student added] Yes, right after the previous lesson.

(S1.FG1 /16.11.2020)



Fig 12.6 Rebecca's student painting No.3/10.11.2020

(Painting Caption: Rebecca and I are chatting freely. She thinks this thing is very funny. This shows Rebecca and I are communicating. I use red colour to show patriotism and happiness. The Chinese in the painting means: Left: 'Ha, that's really funny.' Right: 'Hee-hee.')

Good teaching method

In S1.FG1 and S1.FG2, there were both students stated that they also liked Rebecca because she had a good teaching style, like giving students an audio to listen to stimulate their imagination when they are asked to write an essay. For example, she played the sound of rain when writing about rain. There are also role plays for students to stimulate their imagination and to help them write their essays:

...also acted out tigers. Yes, and someone is running, acting as the hunter.

(S1.FG2 /10.11.2020)

When the students were giving these examples, three or four other members of the focus group nodded their heads, expressing approval.

12.3 Outstanding TSR teacher and her class: Case 2

Setting for the Case

The research setting for this case is a public elementary school in a city in south part of China. This school is also a big one, which has 58 primary classes, with about 2800 students and 137 teachers. In the elementary school area grade 4 (students aged 9-10), three class teachers and their students were recruited for the TSR survey. From the survey results, an outstanding TSR teacher and her class were selected as the case. The teacher got an average of 64.66 points on the student-subscale questionnaire (14 items Likert scale, 70 points is the total mark). Sarah is the pseudonym for the outstanding TSR teacher in participant school 2.

12.3.1 Background, educational conceptions and practice

Sarah is a relatively older teacher. She is about 45 years old. She was previously a music teacher and then switched to teaching Chinese due to the needs of the school. After that, she completed a self-study adult university education in Chinese Literature. She grew up in an environment where the teacher profession had a high social status. At that time, even in young children's games, everyone wanted to be a teacher, as she recalled:

When you play some games as a child, all of you want to be a teacher, don't you?

(T2.Interview /17.11.2020)

According to her, being a teacher at that time was one of the most employable jobs in China, as many families lived poor life and had numerous children. But personally, she was also influenced by her teachers from a very young age. In her recollections, many teachers who taught her were very kind to her and had close relationships with her and her parents. Her teachers would also help her plan her pathway and choices in life. She also had the experience of living with a teacher's family, and those teachers were also very nice to her. This boarding life continued until she went to a normal high school. She believes that her attitudes towards teachers and education were very positively influenced by the many good teachers she met in her upbringing experience. This enabled her to be absorbed in her teaching job, giving more respect and dedication to her teaching profession, her students and the students' parents.

So, every step of my growth, and every step of my life planning is inseparable from the guidance and help of one teacher after another. So, when I came out to be a teacher myself, probably because of their love, I can also make it to my students, to my parents well. I am more able to stand in their shoes, stand in their perspective to respect them and help them.

(T2.Interview /17.11.2020)

She, therefore also expressed that she can speak out very confidently about her love and enjoyment of her work as a teacher and her love for her students. She believed she enjoyed spending time with the children. This is why she also takes the initiative to undertake more teaching work, such as class teacher's work. She believed that she enjoyed spending time with the children very much.

Sarah had been teaching this group of students for about three years and three months, from the beginning of Grade 1 to the first term of Grade 4. But most of the students also commented that they liked Sarah since Grade 1, and some students said they were fond of the teacher from the first meeting:

I found it right at the beginning, the first time, the first lesson.

(S2.FG4 /16.11.2020)

(S2.FG4. represents School 2 Focus Group 4, same as below)

She looks so gentle and kind the first time I knew her.

(S2.FG3/16.11.2020)

Conception towards student education

Sarah believed that the teacher should be a friend-like role that provides support and help. When students encounter difficulties in studying, life, or interpersonal relationships, it would be terrific if the teacher could give them some help and increase their confidence. Also, the teacher needs to be tolerant of their students so that this could promote communication between them and the teacher, as she stated:

He might feel wrong in his heart or whatever. When I am tolerant of him, he will be willing to tell you about it.

(T2.Interview /17.11.2020)

Sarah also articulated her philosophy on the purpose of student education. She commented that the job of a teacher is not only to teach knowledge but also to prepare students to be people with positive social values, including being equal, fair, honest, friendly, giving and tolerant. Being friendly and tolerant means treating others respectfully and not being cynical when others make mistakes. She believed that developing these qualities in students would help to build a good ethos in society. The teacher needs to constantly correct students in their daily lives, teaching them how to be kind to others.

Sarah thought her was not particularly skilful in teaching students since she started her career not in Chinese education but in music education. But she believed that she devoted her emotions well to teaching her students.

Really, it's teaching with genuine emotion. I may not have a lot of skills, but the children are edified with my emotions, and I think this might have given them some benefits, and nourishment, too.

(T2.Interview /17.11.2020)

Conception towards TSR

Sarah believed that TSR was a good medium for teaching. By building a positive relationship with the students, the process of teaching can be better accomplished. By helping students when they need help,

the relationship can be constantly enhanced. Her knowledge related to TSR came from her self-learning of psychology. She was able to sense the psychological state of students by judging their expressions, their eyes, etc. When she was close to the students, students would be less defiant and resistant to the teacher and more easily interact.

Sarah stated that she did not deliberately please the students in the process of interacting with them, but she would be quite concerned about the students' state and classroom performance. She gave an example:

For student XX [the name of the student], the first class on the first day, his whole body was lying on the table. I said what's wrong with you, then he said I didn't eat breakfast, then at this time, I let him go out and eat some biscuits.

(T2.Interview /17.11.2020)

She also believed that TSR was constructed in the daily contact if the teacher was concerned about the students. Students will gradually be willing to communicate with the teacher, and then they will become familiar with the teacher and build good TSR. The way Sarah built connections with students was by responding to students' needs and meanwhile telling them that students were permissible to get help from the teacher if only they needed it. She believed that your behaviour would be observed by all the students in the classroom:

When I'm dealing with one child's help, I'm actually telling the class that you can get help from me if you need it.

(T2.Interview /17.11.2020)

Conception and educational practice

Sarah placed great importance on communication and interaction with students after class. She valued the equal position in communication with the students. She believed that communication and interaction with students lead to better integration with the student group. Regarding communication, she would try to consider all the students in the class and, where possible, have some communication with each of the forty students in the class. She would also periodically consciously review which students they had less communication with over the period and actively seek opportunities to communicate with such students, as Sarah stated:

Sometimes I really do focus more on the children who are well-behaved and get good grades, but the children who don't stand out can often be the ones I forget. At this time, I will regularly review which children I have not spoken to in the past month, and then I must find them and invite them to communicate with me, asking how they are doing. 'Are you keeping up with your studies, and which text did you gain the most from?'

(T2.Interview /17.11.2020)

Interestingly, like Case teacher 1, Rebecca, Sarah also spent a lot of after-class time with the student. This point was also mentioned by students in the student results described earlier. Sarah often intentionally went to the classroom before or after the lesson to communicate with the students, as Sarah recalled:

I do spend more time with them [the students] than I do in the teacher's office. I spend more time in the classroom, especially in the lower grades. I'm basically staying out of the office.

(T2.Interview /17.11.2020)

Sarah thought communication and interaction should not be limited to classroom asking and answering questions. It should include communication and interaction outside the classroom in terms of daily

interactions and student self-management work, like greeting the students, praising them in class or after class, discussing with them about the class affairs, communicating at mealtimes, and sharing food with them. As Sarah stated:

In the classroom or walking down the corridor, I would intentionally, with these children, I would take the initiative to greet them, say hello, or I would praise them. Using this kind of approach and the introverted ones would use this kind of approach. Sometimes I say hello to him when he walks down the corridor and greet the family good morning. Or 'wow' the pretty dress today. Or say you're early today, or whatever. Just go with that to let him know that: I was seen by the teacher.

(T2.Interview /17.11.2020)

Sarah also indicated that it might have something to do with her classroom teacher's work as well. She was more concerned about the students. Talking to the students and knowing more about their situations also reassures her. She also remarked that she read some research on this and believed if you want to have a closer relationship with another person, you need to be socially closer to him or her, probably through some physical contact in your daily life. She emphasised that it is not private or too intimate contact, but some simple social physical contact. She thought this approach was very helpful in bringing teachers and students closer together and reducing their sense of awe. This could make her talk to her students in an equal state and as friends.

Sarah stated that she always considers students' different psychological personality traits in their interaction with them. She also highlighted her educational practice of carefully observing and using different ways of communicating and interacting with children with different personalities in the process of teaching them. As she remarked:

Adopt different ways to interact with different children. I can tell you the story of each child because I really had a lot of interaction with them over the years. As I sat in this classroom every day, I had different episodes with them every day.

(T2.Interview /17.11.2020)

For students with relatively low academic achievement levels and low self-confidence, she would give them some work that uses other aspects of their abilities to increase their confidence:.

And like XX, he has the worst scores in the class in all subjects. But this term, I gave him that picketing job in the schoolyard. He took it seriously.

(T2.Interview /17.11.2020)

Sarah would also increase her interaction with sensitive students by assigning them class duties:

For this kind of child, I will assign him some work, some work that has to communicate with me regularly, the kind that increases the opportunities for communication. He will need to come to me and ask for advice, he will come and report to me, and then we will have more [interaction], and after that, we could gradually make it, right?

(T2.Interview /17.11.2020)

For introverted children who communicate less with others, Sarah would contact the parents and suggest increasing communication with their child. Sarah would also do something to facilitate the student's peer interaction, as she noted:

At this time, I would also talk to his mother. I said: 'To communicate a little bit more, ask him which students he played with in class today, to listen and let him talk, to have more listening, please. Find out about his interactions with his friends, give guidance, give him timely guidance.'

Apart from this, I will notice with whom he played well, and then I arrange his friends to sit with him so that he can have more interaction with his friends. Then the next step, I would have more arrangements, you cannot only interact with one person, and you need to learn.

(T2.Interview /17.11.2020)

There was one student who was naughty and full of energy, with a little bit family discipline problem. Sarah also suggested ways suiting the student and got involved in his family issues to help the student:

I realised the situation, and I spoke to his dad. I gave him two options. Firstly, I said the child has a lot of energy. Um, I recommended getting him to the swimming team and getting him to swim for an hour or two every day after school. Until now, in the winter, he still wants to swim every day. I said firstly, you must insist that he go swimming, and secondly, you can't spank him unless I come to you with a complaint. I tell you that the child refused to correct, and you can spank him hard. I said unless I have this implication, otherwise you can't spank again.

(T2.Interview /17.11.2020)

There were also interactions, such as giving students some snakes, as Sarah noted:

Then like this child, usually, you give him a little snack, give it to him. He is tempted by food. You give it to him, and he will be happy and willing to listen to you.

(T2.Interview /17.11.2020)

Conception and educational practice on student correction

Similar to Rebecca, Sarah also took students' psychological capacity into consideration when criticising them after students' mistakes. She felt that criticising and guiding students was an important thing to do and needed to be especially careful. In this process, the teachers need to pay close attention to the student's psychological state, as Sarah stated:

I've spent a lot of effort on this, correcting mistakes, since I came into this class at Grade 1. Because, actually, kids often make mistakes, and so on. He/she usually will because he's afraid of being punished, so they will lie to the teachers.

(T2.Interview /17.11.2020)

Sarah believed that a better way to confront students who lie for fear of criticism is to tolerate them, allow them to make appropriate mistakes, encourage them to apologise and help them to correct themselves, thus reducing their psychological burden of being criticised after making mistakes. She believed that it is only necessary to increase the range of criticism and punishment for students when they refuse to correct themselves after repeated education. Such tolerance way and allowing the students to apologise would make it easier for the student to accept the criticism psychologically without causing undue psychological burdens, as she commented:

Because he didn't know what the outcome was behind it, so he would hide the facts. He didn't want to admit it. But if he could slowly realize that even if I hit him, the teacher would be able to figure out whether I was being intentional or unintentional. I should apologise if it is unintentional. I should apologise even more if it is intentional. These are all around, and then after slowly going through the instructional practices, he will be more frank instead.

(T2.Interview /17.11.2020)

Sarah believed that you need great patience, seriousness and care in criticising students and helping them to correct. She thought that the process of criticising and helping students to correct is very important for the individual student and the whole student group. This process often takes place in the classroom, where other children can see it and learn how to resolve disputes and deal with them after they have made a mistake. As Sarah stated:

This is the time for the student to reflect on himself, and then [I will] guide him when he's done. Basically, this is the part where I need to keep doing. At this time, when the other children are watching me dealing with it, sometimes dealing with their own [dispute]. It is just constantly reasoning and rehearsing, and then the children are more and more able to know how to solve a problem like that.

(T2.Interview /17.11.2020)

12.3.2 Satisfaction, motivation and engagement

TSR can largely impact students' attitudes towards the subject, especially the main subjects. Positive TSR can improve students' satisfaction and exception towards the subject, whereas very strict teacher or teacher that students don't like significantly decrease their satisfaction and exception. In Sarah's lessons, students' engagement and motivation were increased. This section will present the results of students' feelings and attitudes towards Sarah's lessons and other teachers' lessons.

Teacher traits influence students' attitudes and motivation towards subjects

Being too strict or criticising students inappropriately are the reasons that students give for disliking a teacher. These traits might harm students' motivation and engagement in the lessons. Some students

also mentioned that in some other lessons, some teachers would criticise students very harshly when they answered a question incorrectly. The students would be a little bit afraid to answer questions:

I was still a little bit afraid to raise my hand in Maths class. I have the answer, but I'm afraid it will be wrong.

(S2.FG3 /16.11.2020)

Positive TSR improves students' satisfaction and expectation

When asked how the students felt about Sarah's lesson, all the five student FGs agreed (with no contradiction) that Sarah's lessons were different from other teachers' lessons; they were more looking forward to Sarah's lessons. They felt that the Sarah ' Chinese lessons were interesting, not boring and that they liked them (like in the painting Fig 12.7). As one student commented:

The Chinese teachers [Sarah] are all different. The Chinese teacher teaches the lessons, the lessons are very lively and very enjoyable, unlike the maths classes which are boring.

(S2.FG1 /16.11.2020)



Fig 12.7 Sarah's student painting No.39/16.11.2020

(Painting Caption: Sarah is teaching us a lesson. This represents Sarah's lesson is very interesting.)

Positive TSR improves students' studying engagement and motivation

Compared to other courses or previous teachers' lessons, most students reported that they were more active in Sarah's lessons and had a higher engagement, including actively making learning notes, concentrating on the class content and actively thinking and raising their hands.

Making learning notes during lesson time is typical behaviour of students who are more actively involved in the classroom and knowledge learning. When the students were asked if there were any differences in their learning status in the social-oriented teachers' lessons compared to other lessons, several students said that they had started to make learning notes:

In Maths and English lessons, I was very sleepy, and I heard but paid no attention to anything the teacher was saying at all. Then it's different in the Chinese lessons [Sarah's lessons]. It's different for me. I just started making learning notes.

The students in the group interviews almost unanimously believed that they were more attentive and focused on what the teacher was teaching in Sarah's classroom. More than half of the student FGs (three out of five) responded to this question in a very consistent and firm tone and felt that the atmosphere in the classroom was good. Several groups of students felt that Sarah's lesson was active. Students were interactive with the teacher, raising their hands and speaking up, and they felt that all the students were thinking together.

It's just fun, and I'm bold in speaking in Chinese lessons.

12.3.3 The reasons that students like the teacher

The reasons students give for liking Sarah include caring, reasonable and acceptable criticising, gentle and patient, dedication, amiable interpersonal communication, and being interesting. In this section, these reasons will be elaborated in detail with students' comments and memories.

Caring

In the four focus groups, students said that they liked Sarah because she cared about them. This included sharing lunch and food with the students, taking care of students when they had physical or psychological problems, and helping students with difficulties.

Sarah usually had lunch with some students in the classroom during lunchtime. She often shared her food with the students, and the students felt very good about this and thought that the teacher really cared about them like a mother. My classroom observation corroborated their words. During lunchtime, several students came by the teacher's table and observed the teacher's food; the teacher took out some food from her lunchbox and asked the students if they wanted to eat it. This scene also appeared in students' painting (Fig 12.8). The students said that during festivals, Sarah would also bring in some sweets, moon cakes or sweet dumplings and share them with the students.

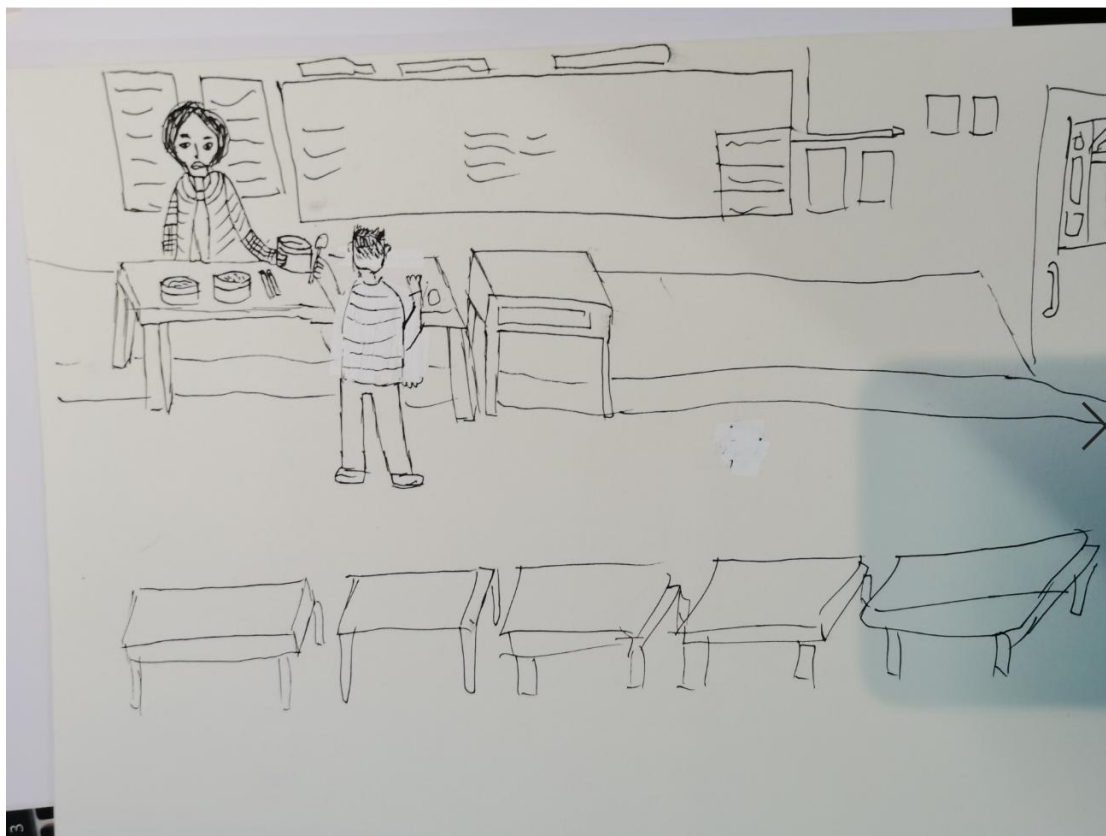


Fig 12.8 School 2 student painting No.35/16.11.2020

(Painting Caption: This painting tells the noon Sarah gives me her food. Because I want to thank Sarah for caring about me. The dishes on the table are the teachers' lunch. Sarah is the person sitting. I am the person standing.)

Three students in different FGs recalled that Sarah was very caring about them when they got sick or felt uncomfortable. She always shows her consideration to the student and takes care of the student, like one student commented:

Once upon a time, in the classroom, and then I was vomiting, right, Sarah helped me. She helped me to contact my parents and then helped me to clean up.

(S2.FG3 /16.11.2020)

Reasonable and acceptable criticising

Sarah resolved students' disputes not by criticising them directly but by some special activities or humourous language that could be accepted by the students more easily. For example, she made them play a tug-of-war game that required a handshake between both sides, which the students thought was a good way of doing things. Students felt it made them less embarrassed, and more willing to accept and correct the mistake. Several students recalled that sometimes Sarah take the blame for the student's mistake and sometimes criticise the student, meanwhile feeling guilty and sad herself. After criticising a student, the teacher would comfort the student even though she was already unhappy herself. A number of students stated that they were impressed by this situation:

When criticizing people, she uses some very funny language. You felt you were criticised, but not in a serious way, and it was kind of funny.

(S2.FG3 /16.11.2020)

Personality: soft, patient

Students stated that Sarah was soft and kind in talking with students, lecturing and correcting their mistakes. When a student was upset by a bad exam result, the teacher would wipe away tears, hold the student's face and gently encourage the student. They felt that Sarah was a very good person, gentle in the daily teaching and strict when she should be.

She is very gentle to us. She is like my mother in my eyes. She is like an angel (another student comments).

(S2.FG5 /16.11.2020)

Another personal trait that was mentioned a lot (in all five FGs) was patience. It could also be seen in one student painting (Fig 12.9). Students thought Sarah was patient because they often guided the students without being pushy. In comparison, they thought the impatient teacher would easily scold students.



Fig 12.9 Sarah's student painting No.44/16.11.2020

(Painting Caption: This drawing shows the scene where Sarah is teaching me a lesson. I want to show Sarah is attentive. The things in the drawing represent Sarah's patient teaching us.)

Dedication

Many students (in three FGs) mentioned that the point they liked about Sarah was the teacher's dedication to the students and the teaching job. In their eyes, Sarah often spends a considerable amount of time after school in the evenings tutoring students, correcting their work or preparing lessons. As these students put it:

Once when I was writing an essay, I wasn't very good at it, and Sarah just let me stay specifically after school and then tutored me on how to write an essay.

(S2.FG3 /16.11.2020)

On one occasion, when I came back from playing table tennis, I passed by the classroom, and it was already late, it was already dark, and I found that in the whole school building, only the light in our class was still on, so I ran to the classroom to observe, and I saw Sarah alone in the classroom correcting homework.

(S2.FG2 /16.11.2020)

Once after school, Sarah was still teaching me in the classroom. I heard her take a phone call and have a dinner date with someone else. She was already late but still taught me in the classroom until I learnt it well. Only after that she went to have dinner with someone else. But she was already late.

(S2.FG4 /16.11.2020)

Amiable interpersonal communication

Many of the students (in three FGs) reported that Sarah often encouraged the students and made them feel motivated; they felt they were morally supported, and this made them feel better in their studies and more like the teacher (also seen in Fig 12.10). One student recalled that when she asked the teacher a question, Sarah firstly praises her for being a good thinker. The student thus wanted to become a teacher when she grew up. One student expressed how he felt frustrated when he couldn't solve a

problem. But after the encouragement given by Sarah, he felt good and more motivated to study. He also received encouragement from his teacher when he took part in the speech competition and won first place, for which he felt particularly grateful. Another student recalled that when he was preparing for the sports meet, he sometimes felt very tired from running. But Sarah was by the track to give encouragement to him and even ran a lap with him, and he was so motivated that he eventually persevered and achieved a good result:

She was shouting from the side of the track, 'Go X (student's name), go, go for it! ' That gave me so much confidence, and I won the silver medal!

(S2.FG4 /16.11.2020)

Sarah also gently encouraged her students when they did not get good results in exams:

I was very sad, and when I was confused, a hand full of warmth gently stroked my head. Hearing the words 'It is just a small miss, just don't give up, everything will be fine, go for it! Come on, young man! Come on, young man'. Teacher X was like a beacon to guide me forward.

(S2.FG2 /16.11.2020)



Fig 12.10 Sarah's student painting No.42/16.11.2020

(Painting Caption: My handwriting is good. Sarah praised me. I really like Sarah praising me. This painting expresses my profound emotions toward Sarah.)

Sarah also spent considerable time communicating and interacting with the students, being easygoing and also gently touching students' heads or hair occasionally. Several students stated that they felt comfortable and close with the teachers and had good interpersonal communication with Sarah, like in this painting Fig 12.11. It is also interesting to know from the students that Sarah always spent extra time after class to communicate with students:

The English teacher used to be late for the class. But Sarah always came in right after the previous class.

(S2.FG1 /16.11.2020)



Fig 12.11 Sarah's student painting No.38/16.11.2020

(Painting Caption: Because I was used to not liking to speak with teachers. In my eyes, this painting means I can bravely speak with Sarah.)

Interesting

In Sarah's student FGs, almost all five groups had one or two students stated that they liked Sarah because she was interesting or her lessons were interesting. Especially her lessons, she always adopted some interesting approaches to teaching the lessons with different themes:

When she was teaching a text about egret, she was talking while imitating the action of egret fishing; the class burst into laughter, all the students in the class liked it very much.

(S2.FG2 /16.11.2020)

When teaching a text about peanuts and characters, she imitated different sounds of children, middle age and old age people, which was very humorous.

(S2.FG4 /16.11.2020)

12.4 Subject painting: The construction time, location and activity of positive TSR

Interestingly, the vast majority of students who took part in the interviews agreed that they liked the social-oriented teachers from the beginning of their relationship. Rebecca had just been teaching the

students for about three months, and she quickly constructed a positive TSR. Most of the students commented that they liked the target teacher in just a few lessons at the beginning of the school year or even from the first lesson.

From the FG results, most students' fondness for their teachers happens very early. Good teacher-student relationships could be constructed in a few days or weeks rather than taking a considerable amount of time

The results of the students' drawings showed that the scenes and activities drawn by the students were mainly from impressive activities for them and their teachers. Many of the students also emphasised in the descriptions (caption) of their drawings that the reason for drawing the scenes was because they were memorable. Suppose such memorable scenes and activities are considered as important memories in the relationship with the teacher. In that case the results of the drawings can reflect key scenes and activities in the construction of the teacher-student relationship. The statistics on scenes and activities are shown in Table 12.3 :

Table 12.3 Scene location and Presented activities in students' subject painting

Scene location		Presented activity	
Classroom	28 (77.8%)	Lecturing	18 (41.9%)
Outdoor	7 (19.4%)	Communication	9 (20.9%)
Teacher office	1 (2.8%)	Playing together	3 (7.0%)
Undefined	10 (Not included)	Taking photos	3 (7.0%)
		Sharing food	3 (7.0%)
		Personal guidance	2 (4.7%)
		Doing sports	2 (4.7%)
		Doing homework	1 (2.3%)

		Watching movie	1 (2.3%)
		Watching swan	1 (2.3%)
		Undefined	3 (Not included)
Total (percentage)	46 (100%)	Total (percentage)	46(100%)

It can be seen that the main place where students and teachers build their relationship is in the classroom (like in the painting Fig 12.12), and the second most important place is outside (Fig12.13), which should not be ignored. Interestingly, the most important activity in the construction of the teacher-student relationship was the teacher's teaching of the students (Fig12.14), with a weighting of 41.9%. Many of the scenes described by the students in the drawing results were scenes where the teacher was giving a lecture to them and her classmates. The next most prominent scenario was communication with the teacher (Fig12.15). The results for communication with students in class added up to over 60%. Additional activities such as playing together, taking pictures together, eating together, and exercising were also activities where the teacher interacted with the students outside of the classroom. This highlights the importance of a venue such as a classroom in the teacher-student relationship that teachers and students build and the important role of lessons and teacher-student communication and interaction.

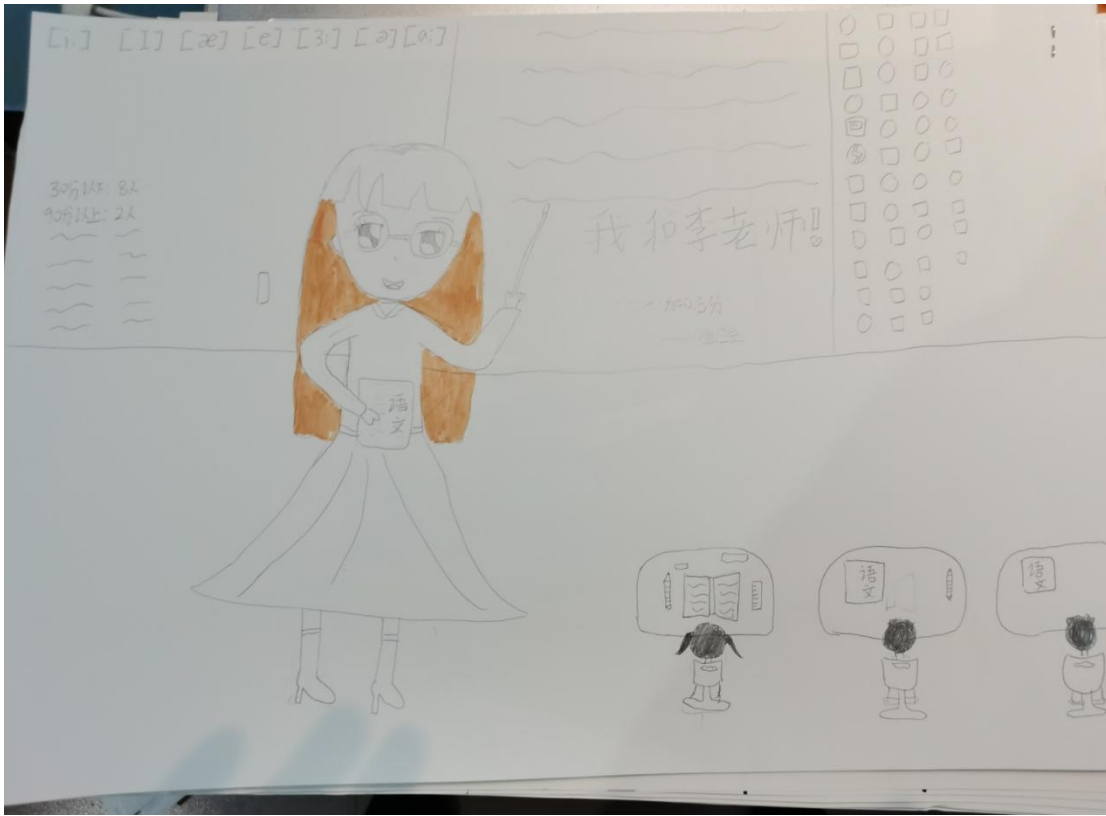


Fig 12.12 Rebecca's student painting No.11/10.11.2020

(Painting Caption: Rebecca was teaching us a lesson. This made me very impressive. I was really happy.)



Fig 12.13 Rebecca's student painting No.3/10.11.2020

(Painting Caption: Rebecca is talking with me in the classroom. It is very impressive to me.)

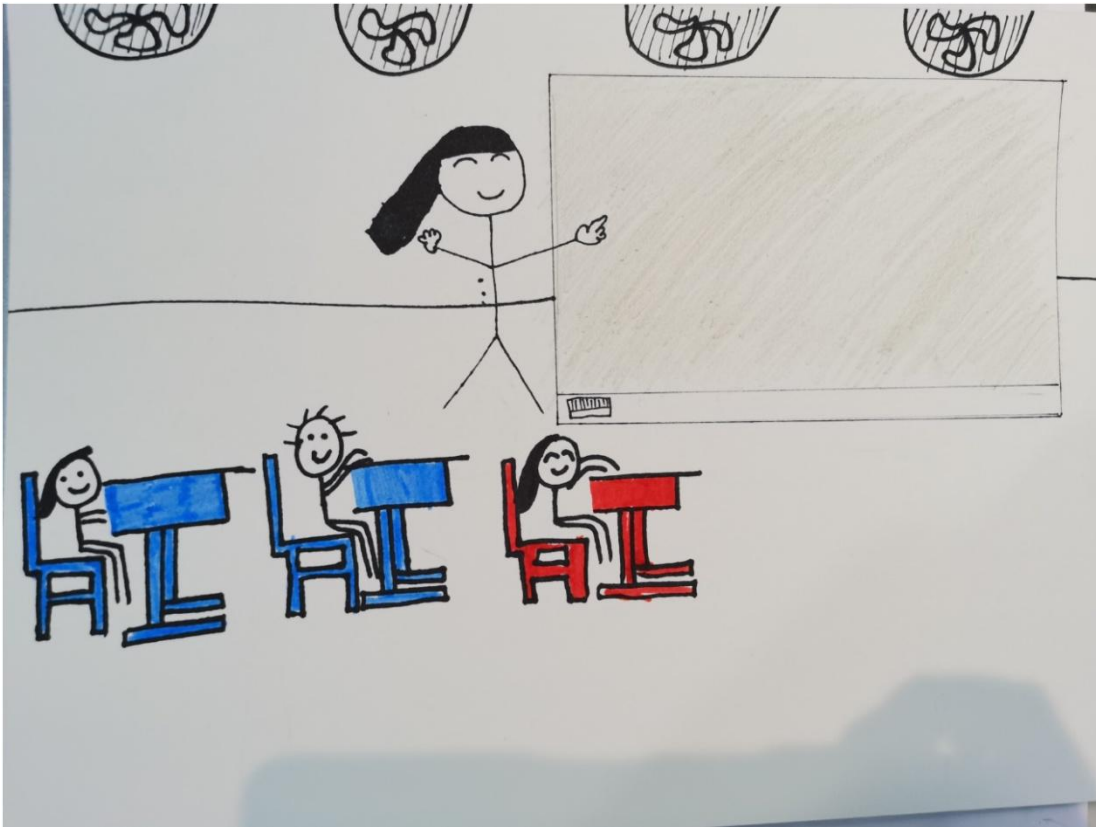


Fig 12.14 Sarah's student painting No.43/16.11.2020

(Painting Caption: I am having a Sarah's lesson. I want to thank Sarah for four years' teaching. I use red to show my grateful.)



Fig 12.15 Sarah's student painting No.46/16.11.2020

(Painting Caption: This painting shows Sarah, me and my classmates are playing the hawk-and-chicken game. This could show the happiness Sarah with us.)

Chapter 13: Discussion of Study 2

The qualitative results section of this study was based on two teachers who were particularly good at building whole-class teacher-student relationships. Both teachers scored above the average of 66 out of 70 on the whole-class student-teacher relationship questionnaire. The results from the students' group interviews, classroom observations and thematic drawings also confirmed that the students liked the teachers and that they had a very positive relationship with them. Such positive teacher-student relationships not only allowed for good interpersonal interactions between the students and the teachers but also positively affected the students' learning.

In the next section, the findings of this study are discussed in detail in three areas. The first part is a discussion of what students liked about the two case teachers. This will be followed by an analysis and exploration of the two teachers' ideas related to their educational concepts and practices. Finally, I discuss the benefits of such a teacher-student relationship for the students and other effects of the teacher-student relationship. In each part, I compare my findings to those of other studies and with relevant theories.

13.1 Why students like their teachers in a good TSR

This section is the discussion of reasons why students like their teachers. The reasons centred on six aspects: their humour, caring attitudes, giving reasonable criticism, good interpersonal communication, teacher characteristics and professional dedication. The order of the reasons is consistent with the order reported in the results section. The top reasons are given priority by relatively more students. The

reasons why two teachers are liked differ from one to the other, and this is also discussed in the corresponding section.

13.1.1 Teacher Humour

The first part of this section is about the types and appropriateness of humour used in the classroom. Then the benefits of humour in the classroom are highlighted. Finally, the connection between humour and TSR construction is discussed.

13. 1. 1. 1 Types and appropriateness of humour used in the classroom

The examples given by the students in the interviews in this study revealed that the humour used by the two outstanding teachers included jokes and mock physical comedy but it was identified as the type of humour that gave the students a good feeling and that they liked. This humour occurs not only in the classroom but also outside of the classroom in teacher-student interactions. The humour used in the classroom was perceived by the students to make them more focused on the lesson, to help them find it interesting and actively participate in it. This is in line with Lovorn and Holaway (2015)'s call that humour should not distract from learning activities because, in their view, too much irrelevant humour would disturb the lesson learning. There was also some use of humour in completely free communication times, like after school, which students felt made them feel more relaxed to interact with the teacher outside of the classroom. It can be seen that the types and occasions of teachers adopting humour are appropriate.

13. 1. 1. 2 Benefits of humour used in the classroom

The students in this study reported that if the teacher is humorous, they would also find the teacher's lessons more interesting. Especially for the two case teachers, the students clearly feel more motivated in their lessons and would be more willing to participate in the lesson, raise their hands more actively to answer questions, and engage in interactions. Lei, Cohen, and Russler (2010) suggest that humour

can improve students' comprehension of course content and that appropriate, structured humorous teaching and interaction can also lead to higher-level thinking, increased creativity and deep subject-related knowledge (Henry 2000; Lovorn 2008). Teachers sharing laughter with students in the classroom could reduce student stress, especially for some marginalised students, and can create a relaxed and safe atmosphere where interests can be nurtured for all (Berk 1998; Wanzer, Frymier, and Irwin 2010). Humour has also been reported to moderate the negative effects of stress and depression in cross-cultural learners, as in the findings of Chiasson (2002), that the stress of using a second language could be released and increase their confidence. Students' improved engagement and motivation might have connections with the relaxed and safe atmosphere. Although, these behaviours may not be solely due to teacher humour, here it was found that appropriate teacher humour is associated with higher interest and engagement in the teacher and lesson.

13. 1. 1. 3 Humour helps to build the relationship

The qualitative results of this study suggest that the construction of good TSR at the primary level is directly linked to the teacher's humour or the student's perception of the teacher as funny. The connection between humour and the teacher-student relationship is an under-explored area (Velez and Cano 2008; Hagenauer and Volet 2014). However, several studies reveal that teacher humour could make for more positive teacher evaluation (Gorham and Christophel 1990; Frenzel et al. 2009; Von Culin, Tsukayama, and Duckworth 2014). A study by Glenn (2002) found that teachers who were perceived to be humorous received higher overall ratings. Abraham et al. (2014) also observed that the vast majority of students (n = 158; 98.12%) have a good feeling about teachers who adopted humour in their lessons. These studies focused on adult college and university classroom scenarios. In conjunction with the above discussion, it is hypothesised that the possible reasons for this are that humour increases the teacher's personal and classroom attractiveness, while humorous communication applied to the process of student error correction reduces the likelihood of student-teacher conflict and makes students receptive to teacher criticism and advice. Humorous communication in the interpersonal sphere can enhance the immediacy of the teacher, i.e. the teacher's attractiveness, and thus increase students' closeness to the teacher (Meeus and Mahieu 2009). According to TSR-related theory (Roorda et al. 2011; Verschueren and Koomen 2012; Pennings et al. 2018), high levels of closeness and low levels of conflict are two important dimensions of the three dimensions of teacher-student relationship

construction (the other one is dependency), representing a more positive teacher-student relationship. This may also be one of the reasons why humour contributes to the teacher-student relationship.

13.1.2 Teacher caring

This section is elaborated on six aspects associated with caring: the benefits of teacher caring for students, caring recognised by the students, caring elements reflected in the results, caring transmission from teacher to the students, how caring contributes to the TSR construction and the caring orientations related to students' age.

13. 1. 2. 1 Teacher caring benefits students

In the present study, students of both outstanding teachers reported strong perceptions of teacher concern, which was matched by significantly higher engagement behaviours, positive academic affect and greater motivation when they described attending classes with these two teachers compared to other teachers. Such results are consistent with the findings of previous studies. Caring is viewed as a fundamental attribute of most, if not all, good-quality human relationships (Teven 2001). As early as the 1990s, student perceptions of teacher care were found to have an important and positive relationship with student engagement prior to student achievement (Parish and Parish 1991). Teacher caring has been shown to be strongly associated with increased emotional and cognitive learning in students (Teven and McCroskey 1997; Teven and Hanson 2004; Frymier 1994). Also, a caring school climate reduces disruptive behaviour and increases student academic success (Muller 2001; Hasenauer and Herrmann 1996).

13. 1. 2. 2 Students can recognise caring

The examples given by students in this study when describing the care they felt from teachers revolved around daily teaching or communication interactions with teachers, including teachers caring about students' physical health and mental state, teachers caring about students' difficulties or problems, teachers responding to students' needs in a timely manner, sharing food with students, and giving students sweets and gifts. Lewis et al. (2012) suggested that when students feel cared for, it is because the teacher is interested in the individual student, is empathetic to the student's feelings and is interested in listening to what the student has to say. Caring teacher behaviour in the eyes of students includes answering students' questions carefully, listening to students, and being willing to help students when they need it (Kitano and Lewis 2005; Knesting 2008) .

In addition, students report feeling cared for by their teachers through non-verbal behaviours like their gentle eyes and encouraging tone of voice. Galloway (1976) and Teven and McCroskey (1997) suggest that the teacher's classroom behaviour is always noticed by the students. Students learn a great deal from the non-verbal behaviour of teachers as well as their verbal, behaviour, and students determine how teachers feel about them by observing their communication behaviours with students. Some of the non-verbal immediacy behaviours of teachers have a positive impact on classroom effectiveness; communication behaviours known to increase immediacy include eye contact, gestures, relaxed body postures, smiling, vocal expressions, movement and proximity (Teven and Hanson 2004; Andersen 1979). Teven (2001) also suggested that teachers' responsiveness (positive responses to students) and students' perceived care showed a significant positive correlation. Combining these studies and the results of the present study, it can be suggested that students can recognise teachers' care from their daily communication and interaction with them through their words, actions (proactive actions and responsiveness to students), and non-verbal communication behaviours.

13. 1. 2. 3 Three elements of caring

Three factors are thought to contribute to students' perceptions that teachers care about them: empathy, understanding and responsiveness (McCroskey 1992; Teven and McCroskey 1997). All three are evident in my data. Empathy is the ability to see things from another's perspective and to feel what they feel. This was confirmed by the examples given by several students in this study when they articulated

the teacher's concern for them. For example, when students felt that a student was sleepy, the outstanding teacher would allow the student to take a nap in class, which would not be seen in another teacher's classroom. Also, when students complained to the teacher about the amount of homework in other subjects, the teacher would give the students their own class time to work on their homework. These are examples of teachers who are able to empathise with students, and then students feel that the teacher cares about them.

Teven and McCroskey (1997) also believe that teachers who are able to see things from the student's perspective, understand the student's point of view and are respectful are likely to be given more credibility, and students are more likely to believe that the teacher cares about them. Understanding is the ability to comprehend the thoughts, feelings and needs of another person. In such examples, understanding can also be demonstrated. The outstanding teacher could understand students' feelings thus, she gave the students extra time on their homework. This might also be the reason why case teacher 2 was always tolerant of the students who made mistakes, and students could feel caring in this.

The third factor in perceived concern is responsiveness. Teachers demonstrate responsiveness to students when they are attentive to them, listen to them, and respond quickly to their needs or problems (Teven 2007). In this study, it was evident from the teachers' practice with their students that outstanding teachers are very responsive to the state of their students, such as being concerned with their students' physical and mental health and interacting with them. Students' perceptions of teacher care were positively correlated with teachers' responsiveness to them (Garza, Ryser, and Lee 2009; Lewis et al. 2012). This showed that responsiveness was also a factor for students perceiving a higher level of concern from their teachers.

13. 1. 2. 4 Caring needs to be passed

McCroskey (1992) introduced the concept of 'perceived caring' as a core perception that students have of their teachers. He argues that it is great if a teacher really cares about his or her students, but he points out that it is difficult for any teacher to show great concern for all students, especially when teaching large classes. In this study, both case teachers stated that they periodically reviewed which

students they had not communicated with during a certain time period and consciously communicated with the 'ignored' students. In their communication, they would also consider the students' personalities and adopt reasonable approaches, such as appointing tasks and duties, to increase communication chances in order to communicate with the introverted students in the class. If a teacher cares a great deal about the students, but does not communicate that feeling to the students, then it may be ineffective. In the present study, the results of the students' statements and drawings also reflect that they perceived a relatively high level of care from the two outstanding teachers, and the caring could cover the majority of the students in the classes. The two outstanding teachers highlighted their views and educational practices regarding communicating with the majority of students in their classes in their discourse on their teaching philosophies and practices. While students reported that they felt the teacher's caring through their interaction with the teacher. These findings correspond to the studies on teacher caring and teacher-student interaction. Student contact and engagement with 'caring' teachers is an important factor in student retention (McArthur 2005). Other studies show that when students perceive teachers' care for their well-being, their affective evaluations of the curriculum and teachers are positive (Teven and Hanson 2004; Teven 2007). The unique contribution of the present study is perhaps that communicating with each individual student in the class allows the whole class to feel the teacher's care, which in turn facilitates good TSR construction at a whole class level.

Additionally, it is essential to highlight the differences between teacher-reported caring and students perceived caring. A study investigating classroom care claimed that teachers' self-reported care for students was not significantly associated with students' reported care from teachers (Lavy and Naama-Ghanayim 2020). It suggests that teachers' self-perceptions and experiences of their care are not necessarily reflected in their behaviour and expressions as their students also experienced. Noddings (2006) claims that although teachers often genuinely care about their students, some teachers fail to develop a caring relationship with their students. In the present study, the teachers did not speak too much about their caring for the students. However, you can feel from their attitudes and perception that the two case teachers do give close attention to the students' needs and wants. Corresponding to this, the students reported a quite high level of perceived caring. The findings also reveal that a difference may exist in teacher claimed caring and students perceived caring, reminding us to consider teacher and students' feelings.

13. 1. 2. 5 Students' perceived teacher care affects their evaluation of teachers

Then, it comes to the following question: how is student perceived caring connected with the construction of TSR? A recent study (Lavy and Naama-Ghanayim 2020) found that TSR can mediate students' perceived teacher care and students' self-esteem, well-being and school engagement. Its findings also suggest that teacher care is one of the most important components of a safe and effective TSR that can facilitate student development. The results of the present study also yielded the same conclusion from a qualitative perspective, that perceived teacher care is closely related to good TSR. In the present study, quite a number of students reported that they like the case teachers because the teacher cares about them. Several studies (Teven and McCroskey 1997; Teven and Hanson 2004; Lewis et al. 2012) have reported that perceived teacher care also has a positive impact on students' evaluations of teachers or teacher affect. Students perceived caring could improve students' evaluation towards the teacher, thus benefiting the construction of positive TSR. The finding of this study is that class-wide perceived care closely related to constructing positive TSR at the whole-class level.

13. 1. 2. 6 Student's age related to the orientations of teacher care

Finally, with regard to perceived teacher caring, students may have different orientations towards caring depending on their age. The students in this study described teacher caring behaviours quite often in relation to students' physical and physiological well-being, life concerns, teacher graciousness, food sharing, gift sharing, etc., rather than focusing heavily on academic task orientation. Teven and Gorham (1998) investigated the behaviour of caring and non-caring teachers in the eyes of undergraduate students at university, and their research suggests that students have a set of abilities to identify teacher behaviour and relate it to teacher caring. Two-thirds of the caring and non-caring behaviours listed by undergraduate students were task-oriented, with significant caring behaviours correlated with student achievement, classroom performance and response to learning problems. The teachers' care perceived by high school students is mainly related to academic tasks with only a small portion of personal interest and interaction (Garza, R. 2009), similar to college students, but this is different from the direction of primary school students in this study.

This can probably be explained by the relatively young age of the students, 10-11 years old, when they are not fully able to take care of themselves physically and need some help and attention from the teacher. It might also relate to one of the theoretical foundations of TSR, attachment theory. Attachment theory states that minors may look to their adult teachers for a sense of security and attachment (Sabol and Pianta 2012; Verschueren, Doumen, and Buyse 2012; O'Connor 2010). It is presumed that the needs and definitions of care in the construction of TSR will vary between students of different ages and studying stages.

13.1.3 Teachers' reasonable criticism of learners

Students in this study reported that they could accept criticism from teachers, but they do not feel comfortable with unwarranted criticism or angry teachers. A relatively large number of students stated in their interviews that one of the reasons they like outstanding teachers is because the teachers will be angry and criticise the students for justified and appropriate reasons and will not get angry for any reason. The outstanding teachers, especially case teacher 1, criticised students appropriately and made them feel comfortable with it and willing to make improvements. Research on teacher criticism and student assessment has found that teachers' patterns of criticism and praise are one of the keys to understanding changes in classroom climate (Worrall, Worrall, and Meldrum 1983). Different forms of feedback provided by adults can have different effects on children's reactions to criticism (Kamins and Dweck 1999; Mizokawa 2013). It is evident that good forms of feedback on criticism can improve students' attitudes and reactions to criticism and help them to accept it and correct themselves.

There are significant individual differences in children's sensitivity to teacher criticism, which is related to children's social cognitive development (Cutting and Dunn 2002). Both the outstanding teachers in this study took great care to consider the differing psychological characteristics and the receptiveness

of their students when criticising them. In this study, case teacher 1 used humour, a not directly to one personal approach to protect the students' psychology and weaken the negative effects of criticism. Case teacher 2 was more tolerant of student mistakes and used encouragement to weaken the psychological pressure of criticism on the student agent. Undoubtedly their approach to giving criticism and taking into account the children's receptivity to it, and so could achieve relatively good results. The reasonable way of criticising students and the consideration of their psychological receptiveness to criticism may also be one of the deeper reasons why they were able to establish a good TSR.

Research tells us that when faced with criticism, students tend to transfer the negative evaluation they receive to their negative evaluation towards the teacher who criticise them (Worrall, Worrall, and Meldrum 1983; Skipper and Douglas 2015). According to these studies, a child's perception of himself or of his teacher changes somewhat when he receives praise or criticism. When confronted with some criticism, the child might use psychological defence mechanisms to protect him or herself from this critical event. Worrall, Worrall, and Meldrum (1983) proposed that if the same feedback was provided by the classroom teacher, then it might have a more pronounced or long lasting impact.

These studies might give clues about how TSR was constructed in the current study. The students stated that they do not like over-strict teacher's lessons and do not want to answer the teacher's questions because they were afraid of being blamed or criticised. Thus they might have a more negative evaluation of their relationship with the teacher. The two outstanding case teachers adopted appropriate ways and time to criticise the students, and the way they criticised had a significantly different impact on students' attitudes towards the teacher and the TSR compared with the more strict teachers. Students claimed that they thought teachers' criticism was more reasonable and more willing to accept and correct their mistakes. They might have a more positive evaluation of their relationship with the teacher because of this, or vice versa. The appropriate form of criticism benefits the evaluation of the relationship between student and teacher, thereby influencing the TSR construction process.

13.1.4 Good interpersonal interaction

In the findings of the present study, good interpersonal interactions between outstanding teachers and students were one of the reasons why students liked their teachers; the positive interactions also helped to build good teacher-student relationships. From the students' perspective, their enjoyment of good interpersonal interactions with their teachers was reflected in both the students' statements in the group interviews and the students' paintings about their teachers. Some students said that the process of talking to their teachers was relaxing and enjoyable and was able to bring joy to them. Some students drew scenes of relaxed communication with their teachers, with both teacher and student showing delighted expressions. The teachers also mentioned that they spent extra time in the classroom to interact with the students (almost all the breaks before and after the lesson), to communicate and spend time with them. Both teachers adopted the educational strategy to increase interaction with a wider range of students, especially involving the more introverted students. In addition, the classroom observations also revealed that both teachers interacted quite well with the students during the lesson. The students actively raised their hands and shared their views with the teacher about the learning content. After the lesson, during the lunchtime of Case teacher 2, a number of students also took the initiative to communicate with the teacher or share some food with her. The interaction and communication between the two case teachers and their students took place both inside and outside the classroom. From these multifaceted results, it can be known that outstanding teachers and students have good interpersonal interactions both inside and outside the classroom.

Researchers on classrooms have suggested that the overall quality of classroom interactions or the effectiveness of emotional, pedagogical and behavioural interactions in the classroom facilitates or limits learning (Hamre and Pianta 2010; Pianta, Hamre, and Allen 2012) and can influence children's development (Downer, Sabol, and Hamre 2010; Verschueren, Doumen, and Buyse 2012). These processes of social interaction co-exist in the classroom and may have a unique combined effect on student achievement (Gest and Rodkin 2011; Wentzel et al. 2010). These findings are consistent with my own study, where high-quality interactions between outstanding teachers and students also coincided with high levels of classroom engagement and motivation among students.

Based on this literature and the results of the present study, the form of interaction may be the bridge for the construction of a teacher-student relationship so that the teacher's appreciation, praise,

encouragement, help and concern for the students, such positive emotions, and the teacher's caring and helpful attitude can be conveyed to the students. Through communication and interaction, the students can feel positive emotions. On the other hand, as mentioned earlier, it emphasises the need for teachers to show concern, respect, support and encouragement to students in order for students to feel these positive emotions more directly and affectionately, thus achieving the goal of building a positive teacher-student relationship. As a result, students become more motivated and engaged in their studies, develop positive emotions and achieve a variety of benefits in terms of academic achievement. As STUDY1 has found in online education, teacher-student interaction is a vital part of a positive classroom environment, where all good feelings, attitudes, concern for students and feedback on their learning outcomes can be felt by the students.

The vivid drawings reflected students' happy interactions with the teacher, such as eating together, participating in sports activities together, chatting happily together, and the teacher's individual after-class tutorials. These suggested that positive teacher-student relationships were constructed not only through communication and interaction within the classroom but also outside the classroom. Communication outside of the classroom is a distinctive and unusual aspect of both teachers' educational strategies and practices in this study, which was rarely reported in the literature. In the classroom environment, most teachers have the opportunity to interact with students during the teaching process, but not necessarily with every student if the class size is large or if there is a lot of content to teach. This is particularly true in Chinese classroom sizes (35-45 students or more). With such a class size, teachers need to maintain discipline meanwhile continue the teaching process, which makes it difficult for teachers to interact with everyone in the classroom on a one-to-one basis. The two case teachers in this study are classroom teachers; they are responsible for the daily management of the students, lunchtime care, hygiene, safety and organisation of activities, so they have more daily contact with the students and spend more time with them.

13.1.5 Teacher characteristics

In the present study, one of the main reasons why students liked teacher 2 was tenderness, as expressed in her daily interactions with students and in the way she treated the students. Teacher 2's gentleness and patience seemed to be obvious and displayed simultaneously in the students' eyes. I have not seen this characteristic mentioned in any research study, though it is mentioned in a volume of memoirs by Titus (2018), who recalls his own teacher's pure love for the subject and innate respect for the student (Titus 2018).

In contrast to gentleness and patience, students directly expressed that they did not like teachers who were too harsh. They stated that their motivation and engagement behaviour was undermined by teachers who were too strict and that they were reluctant to raise their hands to answer questions and participate in class for fear of being scolded by the teacher for giving a wrong answer. Palaniandy (2009) reported a similar situation and extended the negative effects of harsh teachers beyond the classroom. In his study, the most disliked feature of teachers expressed by students was the way in which some teachers punished/managed their students. Such teachers often shout reprimands at students, criticise their parents for the educational problems of their children, and have behaviour that may involve racial discrimination in discipline handling. The students may display misbehaviour, including absenteeism, deliberate tardiness, vandalism of school facilities, graffiti, and disrespect for teachers as a way of coping with the classroom behaviour of teachers they dislike. Horan et al. (2016) reported that teacher callousness traits were associated with lower quality teacher-student relationships and poorer standardised maths and reading test scores. These studies are consistent with the findings of the present study that students easily like gentle and patient teachers and build good teacher-student relationships with them, whereas teachers who are too harsh or even mean do not easily build good teacher-student relationships with their students and tend to cause a decline in student motivation and engagement and have a negative impact on student behaviour and achievement.

In the present study, innocent is one of the teacher characteristics that were liked by some students. The behaviour associated with this characteristic was that case teacher 1 sometimes played with the students. The childishness of the teacher was rarely reported in the literature but may be related to the teacher's

egalitarian attitude towards students. Teachers' interpersonal style is an important indicator of the teacher-student relationship (Wubbels et al. 2006), and daily interpersonal interactions are considered to be an integral part of the relationship (Kiesler 1996; Ramseyer and Tschacher 2016; Vallacher, Nowak, and Zochowski 2005). Further, teacher interpersonal style is associated with cognitive and affective outcomes for students (Den Brok, Brekelmans, and Wubbels 2004) and teacher well-being (Brekelmans 1989; Veldman et al. 2013).

13.1.6 Teacher dedication

Teacher 2 is a person who is passionate about education and student teaching, as indicated by her self-statements regarding her philosophy of education and motivation for teaching. She was boarded at a teacher's home for several years when she was a child; she grew up in a warm and caring teacher-student relationship. She eventually became a teacher herself, with a desire to dedicate herself to teaching and giving her students the best education. She had a heart-felt passion for education. This could also be seen in her students' comments. Quite a few students reported that they liked teacher 2 because of her dedication to teaching. Several students commented that they saw teacher 2 spending her spare time in the classroom at night, correcting students' work after a whole day's teaching work. It can be seen that teacher 2 is passionate about teaching and has a strong sense of responsibility and dedication to the education of students. As stated by Mart (2013), teachers who are passionate about their work have a high level of enthusiasm, their dedication and commitment increases, and they believe in the importance of their work. Teacher 1's student also drew a picture of teacher 1 spending extra time doing personal tuition after school (chapter 7.3.1 Picture 13). The findings of the two case teachers fit in with the report that dedicated teachers spend more than the average amount of time and energy on their work Duval and Carlson (1993). It is worth mentioning that teacher 2 has been working for nearly 30 years and is an experienced teacher. It is no easy task to maintain a work ethic for such a long period of time. How her educational philosophy and motivation can keep her passion for education for such a long time is an interesting and worthwhile question for research.

Kushman (1992) and Rosenholtz (1989) proposed a relationship between teacher commitment and student achievement. Fried (2001) supports this idea by stating that there is a strong link between passionate teaching and the quality of student learning and explains why as follows: If students know that teachers are immersed in their subject and set high standards, they will take their learning more seriously. In this way, teaching ceases to be a compulsory task and becomes an incentive for students. Teachers and students in such an environment also tend to develop a learning environment based on respect and trust. The students feel the passion and dedication of the teacher, and this attitude is passed on to the students, who are then more willing to invest attention, seriousness and increased time spent in their learning. Perhaps this is the reason why teacher passion and teacher dedication can facilitate student learning. In the results of the present study, the students also clearly indicated that they liked to participate in teacher 2's classroom and showed more learning engagement behaviours in her classroom.

13.2 Teacher beliefs

The discussion in this section, as in the results section, is presented in the order of the case teachers' main ideas about education and students, followed by their views related to the main educational practices in their daily teaching work. The first and second sections deal with their altruistic career motivation and their sense of fairness. The third and fourth sections deal with student communication and ideas about student correction, which was particularly emphasised in their daily teaching.

13.2.1 Altruistic career motivation

Both case teachers in the present study were teachers with altruistic motivations. They saw education as a very important career and were constantly worried about the future of their students and how they could best educate and care for them. Such motivation is inextricably linked to their respect for students in their educational practices, their promptness in giving feedback to students, their attention to the psychological well-being of students and their concern for the whole class (as opposed to just the

students who stand out or actively seek communication with the teacher). Teacher 2, in particular, has received good teacher care in her childhood and therefore has a very high sense of value and achievement in her work. She was very committed, devoting much of her personal time and emotion to teaching and students; she was therefore liked by the students in the whole class. The results of this study suggest that teachers' altruistic motivation may influence their daily teaching practices and good attitudes towards students, which can be helpful in the construction of good teacher-student relationships.

13.2.2 Teacher's sense of fairness

The two case teachers believed that all students deserved to be treated equally, and this was reflected in their practice. Whether the student's academic achievement level is good or bad, his or her personality is introverted or not, they notice everyone in the class and target each student with opportunities for interaction and development. The students also reported that when interacting with the teachers, they feel a sense of approachability, ease of access and rapport. As discussed earlier, maybe this is one of the reasons why both teachers were able to establish good teacher-student relationships at a whole-class level. The equal respect they seemed to give unremarkable or quiet students may have been influenced by their perception of education.

13.2.3 Valuing interaction and student feedback

In the present study, the two case teachers are conscious of the interpersonal relationships they have with their students and attach importance to the feedback they receive from them. Both teachers say that they do not deliberately try to please students or consciously build relationships with them, but they would pay close attention to students' feedback in the interaction. This aligns with the research of Claessens et al. (2017), who found that teachers define relationship quality primarily through the type of communication (friendly vs. hostile) rather than through the degree of agency (controlling vs. powerless). The two case teachers in this study also pay attention to how often students interact with

them, and if they have less interaction with a student over a period of time, they recognise that this may be a sign that the student is distancing themselves from the teacher. The two case teachers would consciously look for opportunities to communicate with such students or interact with them in other forms, thus maintaining a relatively close relationship. Recent research shows how training teachers to reflect on their relationships with students can increase their sensitivity and help them bond with them (Spilt et al. 2012; Sabol and Pianta 2012).

What is of particular interest is that both case teachers have very firm perceptions about the importance of active interaction with students; they viewed it as a vital way for them to observe and keep track of their students' progress. Their educational practices were also corresponding with such a perception, as seen in the student interview and the classroom observation results. Both teachers came to the classroom early to talk to students before the class and greeted students warmly when they met them outside the classroom. The students' perception is that they like these teachers, and many of the drawings are based on the theme of friendly interaction between the teacher and students. Spilt, Koomen, and Thijs (2011) and Claessens et al. (2017) call for more in-depth measurement using teachers' self-reports to understand teachers' perceptions of interactions with students, especially in early or primary education. Positive teacher-student relationships are always accompanied by friendly communication. Teachers' perceptions are important because they have an impact on the development of these relationships and because they have an impact on teachers' well-being. The results of the present study were in line with the findings of these studies that teachers' perceptions about communicating and interacting with students are very important in predicting teachers' interactions with students on a daily basis.

13.2.4 Sensitive criticism

The two case teachers' perceptions and their practices in student criticism were also consistent, as noted in the interaction section above. They believed that students inevitably make mistakes, keep learning, and get better with teacher correction. They also tried to develop students' ability to resolve student conflicts on their own. They believe that the way to make students better is not to criticise them

personally but to encourage and support them. They also took into account the students' mental capacity in the process of correcting their mistakes and encouraged them more. The students also reported that they liked the teacher because of the way the teacher corrected their mistakes.

13.3 TSR and student motivation, engagement and emotions

This section has three main parts. The first part is about the TSR's effects on student motivation and engagement. The second part is about the TSR's effects on students' academic emotions. The last part is about the academic emotions' connection with TSR construction.

13.3.1 TSR's effects on student motivation and engagement

13.3.1.1 Positive TSR benefits students' motivation and engagement

The students in the class of the two outstanding teachers who constructed excellent TSR declared that they were more motivated and engaged in their lessons, including listening attentively and actively raising their hands to participate in class discussions. Students claimed that they had completely different attitudes and behaviours in the case of teachers' lessons compared to other teachers. They were more willing to interact with the case teacher, answer their questions, follow their demands and make learning notes. This kind of behaviour was, in the students' words, 'spontaneous, and unprecedented in other lessons'. It is evident that students who have developed good TSR do demonstrate higher levels of motivation and engagement behaviour in the classroom. These findings are in line with existing studies. Hughes, Bullock, and Coplan (2014) also reported that children who form close relationships with their teachers are more likely to respond to the teacher's requests and cooperate in the classroom. Lee (2012) also observed that TSR is significantly associated with students' behavioural and emotional engagement. Improved teacher-student relationships lead to an increase in

student motivation (Maulana, Opdenakker, and Bosker 2014). These studies are verified by the findings in the present study.

13.3.1.2 Negative TSR reduces students' motivation and engagement

In terms of students' classroom participation, the present study found that students' classroom participation was indeed much lower with overly harsh teachers. Students clearly expressed their dislike of such teachers; they reported that they were afraid to raise their hands to participate in class to answer questions for fear of being scolded by the teacher. Although I did not directly observe overly strict teachers, the findings in this study are in line with these studies. Pennings et al. (2018) found that teachers' imposed behaviour tends to elicit withdrawal behaviour from students, while teachers' helping behaviour tends to elicit cooperative behaviour from students. Giles et al. (2012) found that communication styles with an authoritative nature have a negative impact on students' classroom engagement and teacher-student relationships, while articulate communication styles can increase the immediacy of teachers to students' needs (students like the teacher more).

13.3.2 TSR and students' academic emotions

A positive student-teacher relationship can increase students' enjoyment, anticipation and satisfaction with the subject. In this study, the vast majority of students' attitudes were consistent, both in terms of general attitudes towards all courses and towards the subjects taught by the two case teachers. They had higher anticipatory moods and higher satisfaction with the lessons of the teacher they liked more. Conversely, there was less expectation or reluctance to take lessons from a teacher they did not like. Only a small number of students indicated that they would enjoy and look forward to some lessons only because of the characteristics of the subject, such as PE lessons where they could play outside or computer lessons where they could play on the computer. This finding is in line with studies which

claimed that teachers have a strong influence on students' subject-related attitudes. (den Brok et al. 2010; Opdenakker, Maulana, and den Brok 2012).

The results of the present study also show that students' positive academic emotions were closely related to their higher motivation and classroom engagement. Students were more willing to have lessons with teachers with whom they have good TSR. They liked to raise their hands, answering questions and interact with those teachers, and make learning notes in their lessons. The students appeared to enjoy the classes; they are proactive in studying and do not fear being reprimanded, as in the strict teacher's lessons. By contrast, students said they did not look forward to the lessons of teachers they did not like and were reluctant to raise their hands to answer questions. Academic emotions are significantly related to students' motivation, learning strategies and academic achievement (Pekrun et al. 2002; Murphy et al. 2019). Putwain and Best (2011) found that even short periods of negative emotions, such as fear of intimidation by teachers for motivational strategies, can have a detrimental effect on students' learning and test anxiety, which can affect their test performance. The findings in this study fit in with these reports.

Chapter 14: Conclusion of Study 2

This chapter contains four parts. The first section is about the limitations of Study 2, followed by a summary of the findings. Then it comes to an implication section, which focuses on what the enlightenment of this study suggests to us or the educators in practice. The final section is an exploration of some potential future research directions.

14.1 Limitations

The limitations of this study lie firstly in the size of the study, as it accesses just two schools and selected two teachers out of six as the core of the study. This narrow focus enabled me to confirm that these two teachers successfully established whole class level teacher-student relationships and understand how they constructed these relationships. However, more examples of highly regarded could be helpful in gaining a fuller understanding of the process of TSR construction. Considering about the focus of the present study and participants' personal information security, socio-economic status information was not collected from the student participants. This would also be the limitation of the present study.

The limitation of this study also lies in the choice of schools. In the actual process of recruiting schools, because the schools have to be contacted through the university, the schools recruited are relatively good schools located in the university neighbourhood. This is understandable, as these schools can access to university staff for teacher training or mentoring. However, this also limits the range and context of schools and students surveyed. In the Chinese context, the cities investigated in this study located in the southern coastal region, which is economically developed. Schools in such cities receive relatively more educational resources, have a more significant number of students, have higher family socio-economic status, and will have excellent teachers. On the other hand, the central and western regions of China are relatively economically backward, especially in non-urban areas, and have more

serious educational problems in rural areas, especially with many left-behind children. Such schools face more difficulties in a more intense environment, and teachers have more work and lower incomes. Teachers with lower incomes might have greater geographical mobility, making it difficult for them to construct relationships with the students. The heavier workload might give them less time to communicate or interact with students. The left-behind children might have more studying or psychological issues which need more concern from the teachers. There is a great need for good teacher-student relationships to be well constructed in these areas. But the scenarios in the two schools in this study might be quite different from the situation in these areas. It is a limitation point of this study.

14.2 Conclusion

This study found that students' attitudes towards their teachers strongly influenced their attitudes towards the subject. Although my educational practice experience and literature reading suggested this would be true, the results exceeded my expectations. Students' academic emotions in a preferred teacher's lessons were positive and satisfied, and they showed commendable level of classroom motivation and engagement. A teacher who is too strict can negatively impact on students' academic emotions and significantly reduce their motivation and engagement. It indicates that when seeking to improve students' academic emotions, motivation and engagement, students' attitudes towards the teacher and the teacher's ability to build a teacher-student relationship should be considered seriously.

What students like about their teachers is not set in stone, and both case teachers in this study had unique characteristics from the students' view. One teacher was younger, and one was a relatively older teacher. One teacher had just taught this group of students for over two months, while the other had taught her students for over three years. In the case of these two teachers, age or experience and the length of time they have been teaching their students are not conditions that directly affect the teacher-student relationship.

The commonalities between the two teachers are also apparent. One has a humorous style, and the other is more serious but gentle, but both are caring teachers who spend a lot of time in the classroom with their students after school. The commonality between the two teachers is that they both consider the students' mental capacity and try to protect the students' self-esteem when giving them the necessary criticism. Both teachers are also committed to education. The students also made it clear that these characteristics of the two teachers were what made them like them. Perhaps these characteristics are reflective of the importance that these two teachers place on communication with their students.

There are also similarities in the educational conceptions of these two teachers, although their professional experiences and educational backgrounds are also very different. They both have high intrinsic motivation to educate their students. They are not very knowledgeable about teacher-student relationships and have expressed they were not deliberate to please students. However, they are similar in liking the students and are willing to interact with them, spending a lot of extra time outside of the classroom doing that. They are aware of their connection with students, and this consideration influences their educational practice. They are sensitive when it comes to criticising students and try to use humour or tact to criticise them in a way that is easy to be accepted by the students. They instinctively feel that students will make mistakes and that correcting them is a learning process.

The students' drawings reflect the place and location where the teacher-student relationship is established in the eyes of the students. The first important thing was the classroom, then the interaction with the teacher and students. It was found that students' impressions of their teachers were created outside the classroom too.

14.3 Implications

The findings of this study highlight the impact of positive TSR on students' academic emotions, motivation and student engagement in learning and also reveal visually how, from the students' perspective, their motivation to participate and interact with the teacher in class disappears in classrooms with teachers they dislike. The results suggest that when observing and measuring the teaching of a class or a teacher, it is important to consider not only the students' academic achievement

but also the students' feelings about the classroom and the teacher. Students' relationships with their teachers it is closely connected with the psychological well-being of the students and the change in their engagement and motivation. A better understanding of their teacher-student relationships and perceptions of the classroom can help us better identify educational problems and make improvements.

One of the reasons for the construction of good teacher-student relationships found in this study is caring. In the context of this study, the students in the upper primary school were still able to catch this attitude of their teachers towards their students relatively keenly, as well as from other students and from themselves, and were impressed. The teacher still needs to be concerned about the health and psychological well-being of the students in his or her class in order to help build a good teacher-student relationship.

Another important reason for building a good teacher-student relationship is humour. This includes humorous communication with students, the use of humour in the lessons, and the use of humour in criticising students for diffusing their psychological stress. From the students' point of view, this was a feature that impressed both teachers. Teachers can adopt more humorous approaches in their own daily teaching or in their interactions with students, which could increase students' interest in the classroom and contribute to the construction of TSR.

Appropriate criticism of students also plays a crucial role in building relationships between teachers and students. Teachers who criticise their students in a humorous or tolerant manner construct good relationships with their students. Teachers who criticise students too harshly and inappropriately are disliked by students. Based on this result, it is recommended that teachers should be careful when criticising students, and that humorous or tolerant criticism will help build a better relationship between teachers and students and make students feel better. Students are bound to make mistakes; they are learning as they grow up. A teacher who is too harsh can take into account the student's psychological ability to accept criticism and be careful about how he or she uses it and the language he or she uses so that the student is more likely to accept and correct the mistake.

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If you want to construct a positive teacher-student relationship at a whole class level, you need to pay attention to every student in the class. Both teachers in this case study made a conscious effort to find more time and opportunities to interact with the students in the class with whom they had less interaction. This interaction was not limited to classroom time.

14.4 Areas for future research

There is a lot of research on teacher-student relationships, but very little of it explores TSR at the level of the whole class. This is particularly important in the context of larger class sizes of education, such as in China. There are certainly some outstanding, high-achieving students in a class who are liked by their teachers and have a lot of interaction with them, and there are also some relatively naughty and backward students who may also receive more attention from their teachers. But what about those students in the middle part? What about those students who are relatively introverted and don't interact much with the teacher? They are also a group that deserves a lot of attention in the classroom. Therefore, I think it is an exciting and promising direction to extend the study of teacher-student relationship building to the whole class level so that we pay better attention to each and every child, regardless of their achievement level and personality traits.

From my experience of working in Chinese educational institutions and public education and visiting schools during field research, it is clear that in the Chinese educational context, teacher-student relationships are not given much attention by educational researchers, headmasters and teachers. Research in teacher-student relationships in Chinese primary and secondary schools, and the current status and differences between teacher-student relationships in urban and rural schools, is relatively weak. Are some classes particularly good, but some particularly poor, as found in this study? This is highly relevant to the inquiry in practice. What are teacher-student relationships between teachers and students in different subjects? Can subject teachers establish good classroom-level teacher-student relationships and the classroom teachers in the two cases studied? Are the ways in which subject teachers build good teacher-student relationships the same as in this study? Such questions are also worth exploring in all disciplines of education.

This study found that, in the opinion of many students, teachers' humour is an important reason why they like their teachers. Students have higher participation and motivation in the teacher's class because

the teacher's class is interesting. Teacher humour is an issue worthy of further study, especially in its relation to the construction of teacher-student relationship. What type of humour is appropriate to engage in classroom or extracurricular interactions while also promoting the teacher's teaching activities? To what extent can teacher humour affect the construction of teacher-student relationship? If some teachers are not particularly good at designing humorous courses or humorous scenes with students, is it possible to give some humorous help or tips to teachers in the design of courses or classroom activities, so as to enhance the fun of the class and enable more teachers to build a better relationship between teachers and students through humorous or funny classes? These are practical and worthwhile research directions.

The examples chosen for this study are two examples of successful whole-class level teacher-student relationships. There are also classes with relatively negative TSR at the whole-class level. Are the examples found in this study of overly strict teachers and criticise students without regard to their psychological receptiveness directly connected with negative TSR? What about the performance of the students in the classroom of such a teacher? In this study, reasonable and acceptable criticism is one of the reasons why teachers are liked by students. On the other hand, some students view over strict or unreasonable criticism as the reason why they did not like the teacher. Such results highlight the important role of teacher criticism in the construction of teacher-student relationship. As mentioned in the above discussion chapter on criticism, there were not many reports about criticism in the construction of teacher-student relationship. In view of the important role of teacher criticism found in this study, criticism can be regarded as an important factor in the construction of teacher-student relationship for further studies. What kind of behaviour or situation is appropriate for teacher criticism? In different behaviours or occasions, what form of criticism is reasonable and acceptable for students? As mentioned in the interviews of some students in the results of this study, it is acceptable for teachers to criticize students in a humorous way. Humour can be used both in teaching and in student criticism. This suggests that teacher humour is also a topic worthy of further study. There are other forms of criticism that students find easy to accept or that work well, and that are worth exploring.

The study found that good teacher-student communication is also one of the important reasons why students like their teachers. In the interview on the teaching strategies of the two teachers, both case teachers also mentioned the importance they attach to the communication between teachers and students. Teacher-student communication plays an important role in the construction of teacher-student relationship. And I have such a guess, is teacher-student communication an important bridge through

which some good characteristics of teachers, including teachers' care for students, can be passed on to students? Because the results of this study exist in the scene of teacher-student communication, the communication between teachers and students is always accompanied by the interaction involving emotions or attitudes, such as teacher caring, and the encouragement and support of teachers to students. Does good teacher-student communication affect the process of other reasons why students like teachers, such as teacher's care, teacher's encouragement, tolerance, etc.? Without teacher-student communication, it may be difficult for students to feel some of the teacher's attitude towards students. Therefore, the role of teacher-student communication in the construction of teacher-student relationship is worthy of further exploration.

Apart from such reasons, what are some other reasons that hinder the relationship construction between teachers and students? In classes where the teacher-student relationship is poorly established, what are the teachers' and students' perceptions and explanations for such a situation? These are also possible directions for future research that could help us better understand teacher-student relationship building more clearly from counter examples. Such research can also help us better understand the nature of teacher-student relationship and its establishment process, so as to be beneficial to the construction of good teacher-student relationship in practical teaching.

The successful experience identified in this study from the two case teachers, such as humour, communicating with students and appropriate ways to criticise students. Can such experiences be applied to other schools or classes to help other teachers in their educational practice of TSR construction? Can the two teachers' relevant educational ideas be accepted by other teachers and cause changes in their educational strategies? Can a training programme for teachers to improve teacher-student relationships be developed from the case of these two teachers, and whether such training can help teachers who have difficulties building teacher-student relationships? These could be important directions for future research with practical implications.

Chapter 15: Final thoughts

In this final chapter I now offer some thoughts based on a synthesis of the two studies that I conducted. The two studies may not seem directly related at first, with Study 1 being on online education and Study 2 on teacher-student relationships in the traditional face-to-face classroom. Although the initial purpose of these two studies is to explore the construction of teacher-student relationship and the communication and interaction between teachers and students, they are presented separately due to the differences in background and actual situations. The original purpose and interest of my doctoral research was the construction of teacher-student relationship in the classroom. However, as mentioned above, when I was just about to start field research and collect data, the outbreak of the national and even global epidemic of Covid-19 led to drastic changes in the classroom environment. All schools across China were closed and switched to online education. I was interested in the establishment of teacher-student relationships and the interaction between teachers and students in the online environment, but at that time, we must first understand the unfamiliar education model of online education. Many researchers, who are not in the field of online education, including me, know little about the situation of online education, especially the forced online education under the epidemic. Therefore, I first investigated the situation of online education, the learning effect, the feelings of students and teachers and their experiences, including their frustrations and experiences, and then had the opportunity to further explore the interaction between teachers and students in online education and the situation of teacher-student relationships. The result is good, I have a relatively comprehensive understanding of the situation of online education, and this result also makes the online education research of Study 1 and the study of teachers and students in the traditional face-to-face school classroom of Study 2 have completely different educational backgrounds and scenarios. These two aspects of research, in turn, reflect different problems and findings in different educational backgrounds and conditions. Therefore, after careful reflection and many discussions with my two supervisors, I decided to keep the two studies separate and not integrate them. However, after combining the findings and discussions of the two studies, I found that both studies are essentially focused on one question, which I believe is a core issue in education, that is, how to motivate learners so that learners can learn better in the classroom. Both studies point to the teachers, and above all their interactions with learners, as the pivotal element in learner motivation.

In Study 1, the online education enforced by the epidemic, I explored the organisation and outcomes of online learning and the feelings of students and teachers. It turned out that when the camera was not on, teacher-student communication or teacher supervision of students was significantly reduced, students were less engaged and gained very little from their learning. When this teacher-student connection increased, the results improved. Students also report that their motivation to learn significantly decreases when they do not have the supervision and assistance from the teacher. It emphasises the role of the teacher in student learning. The lacking of teacher-student contact and teacher-student communication makes learning outcome very unsatisfactory to both teachers and students. In the specific context of the epidemic, the lack of contact between the teacher and students was immediately reflected in the learning outcomes, as the importance of the teacher was visually evident, as the students moved from the regular face-to-face interaction in the classroom to a distance learning environment where they did not have direct access to the teacher and classmates, and could only study online.

The results of Study 2 also illustrate the importance of the teacher's role. The results show a clear difference in students' academic emotions and classroom participation between the teachers they liked and those they did not like. Both case teachers' pedagogic philosophies and strategies also reflect the critical role of interaction in constructing teacher-student relationships. Such results can be mirrored by the results of Study 1, which makes me pay more attention to the role of teacher-student interaction in the construction of good teacher-student relationships. If you want to build whole-class level positive TSR, please pay attention to the interaction with all students. Of course, there are many other conditions for constructing good teacher-student relationships, which are not easy. But to better help every learner, I will keep trying, both as a former teacher and now as an educational researcher, to better explore the conditions and processes of good teacher-student relationship building for the benefit of more teachers and students.

After all of this, at this moment, I felt that I am going to finish my PhD research period. The experience in my PhD period is extremely precious. I think I learnt some lessons that could instruct me eventually to become a life-long researcher, and I am willing to do so. First, assumptions or inferences can help you prepare or design a study, but sometimes they do not represent what you find in the actual situation. Just like the results of Study 1, until all the results were analysed and sorted out, I would never have thought that these findings would point to teacher-student interaction as key to learning and put such an emphasise on the role of teachers in learning. Many of the findings of my research, especially those

related to student perspectives, come from the mouths of children. These results played a crucial role in helping me address the research questions clearly. This surprised me, perhaps because I, or we researchers in general, have inevitably grown up and our way of looking at problems, at the classroom and learning is no longer the perspective of learners. If we only consider issue from our perspective, we will inevitably lose sight of many important things. In my future studies, I will always attach importance to the perspective of learners, and will always actively learn their views and feelings. The final point is about recruiting participants. Researchers should not be afraid to ask teachers and students, most of them will be eager to help and join you on a journey of exploration.

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APPENDICES

Appendix A. Postgraduate Researcher Progress Report

1. Progress making:

1) About my academic progress, I think now I am doing it well with my supervisors. In the first year, I have read extensively about my research topic and associated areas including education and psychology. I also have come up with a complete research project proposal (for the transfer), including literature review, the context of my research, and methodology. Since April, it has been discussed and refined by me with my supervisions' suggestions for 3 times. I think it have a very good conceptual framework and close to the educational practice. Many thanks for my supervisor Martin Lamb and Indira Banner!

2) About my life living here in Leeds, It is quite difficult for me who completely have no experience living in foreign countries. But now, I think I can live here well in the way I like, with new friends and nice stuff in our school.

3) About my English language ability: I got an 7.0 in the IELTS examination before I came here, whereas I think I am getting a very big progress after it since I came here, especially about my speaking and reading English. Now I felt much better in reading academic articles, theses and can fluently communicate about life and research with other people. My academic writing has also been significantly improved with the help of my supervisors and the excellent training our school provided.

2. Training plan (the modules, seminar/workshops and conferences):

Modules:

EDUC5060M Getting Started: Research Questions and Approaches in Education.

EDUC5061M Philosophical Underpinning of Educational Research.

EDUC5062M Qualitative data: processes of collection, interpretation and analysis.

EDUC5063M Introduction to Quantitative Data Analysis.

Seminar/workshops:

Reading to Improve Writing

Academic Writing Skills (INT)

Children and Research

RDM Essentials for your Degree

Grammar Review A: Workshop

Working with Words 1 Workshop

Writing Purposefully Workshop

Grammar Review B PGR Workshop

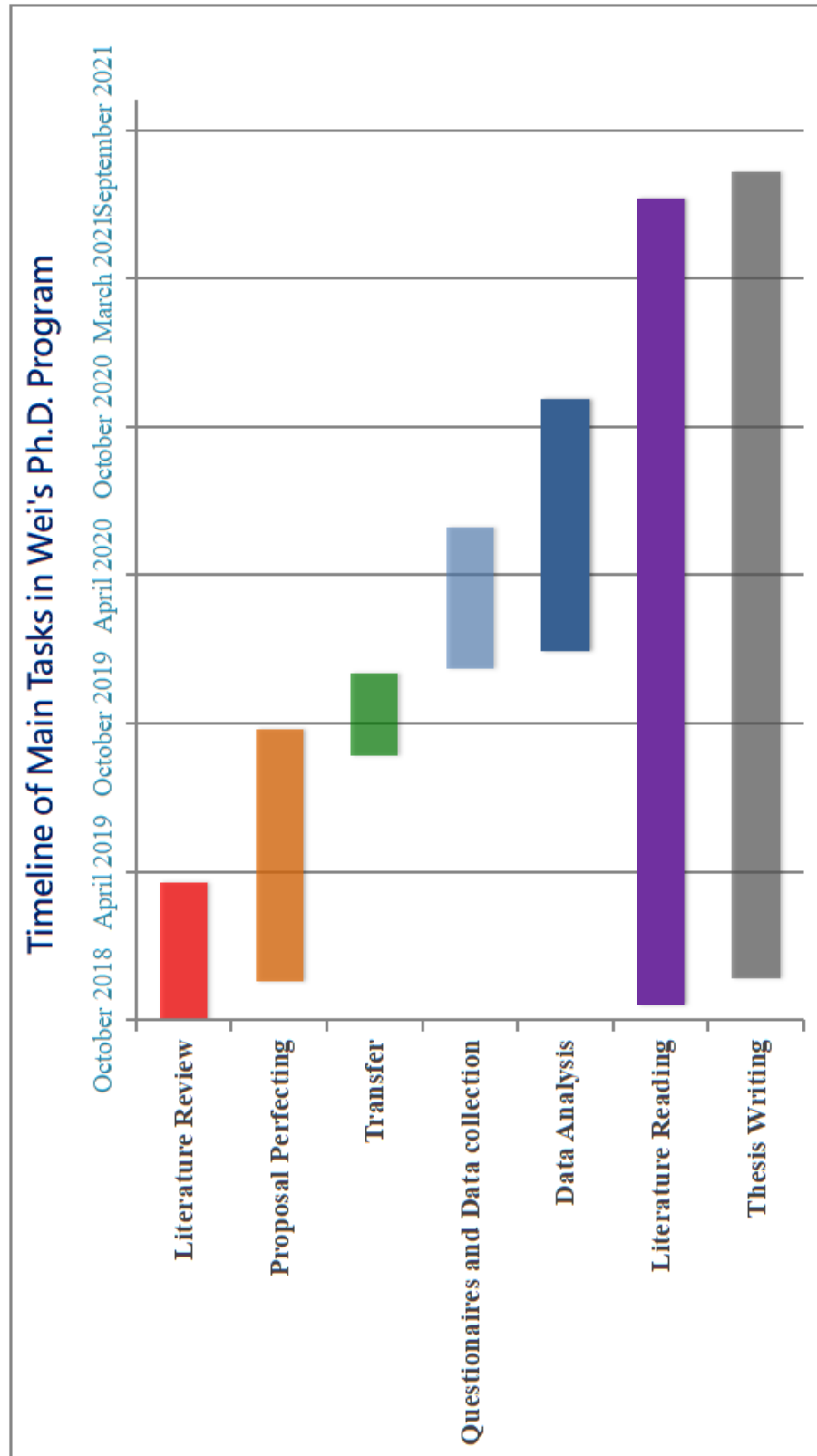
Conferences:

The White Rose Doctoral Training Partnership's (WRDTP) Welcome Event, 12th November 2018

Research Students' Education Conference 2019, 2 April 2019

Education for the Future: Local & Global Perspectives, 2-3 July 2019

Appendix B. Timeline for completion



Appendix C: Interview questions for teachers

A. (Topic) General information about the online studying; Teaching pattern

1. When did you and the students start the online teaching and studying during the pandemic COVID-19? How long has it lasted?
2. How do you teach the lessons and organize the studying activities in this situation, in which you can only communicate with the students online, not face-to-face in the school classrooms like before? Did you change every aspect of studying into an online mode (probes: syllabus content, lessons, homework, activities, individual instruction, group work, pace of instruction, assessment, feedback to learners)?

B. (Topic) Difficulties; The adjustment or improvement of teaching pattern

1. In the change of ordinary school teaching to the online teaching in this special time period, what difficulties have you encountered?
2. How did you overcome these difficulties?
3. Has the teaching pattern (i.e. the way you do the online teaching and students do the online studying) also been adjusted because of these difficulties? If yes, what is the original pattern like? How did it change as it went along?
4. Do you think your teaching or the studying of the students got better effects after these adjustments in the online teaching period? Why?
5. According to your experience, which would be the vital aspects in the conduct of online teaching and the transforming to it from the ordinary face-to-face way?

C. (Topic) Influence on the teachers

1. What's the influence of the forced online teaching in the pandemic on your teaching work? How do you feel about your teaching work now, compared with it before?
2. Do you think you meet more challenges in this time period? If yes, how do you feel about these challenges? What did these challenges bring you?
3. Before you can meet the students face-to-face, now you can only see them through the cameras on the internet, how do you feel about it? Which teaching pattern do you prefer? Why?

D. (Topic) Influence on the students

1. From your view, what's the influence of the online teaching on the students in your class? Is the effect the same on all the students or do you notice differences in how they have responded?
2. How about the students' academic achievement? How did you evaluate it now in the online teaching? Again, any noticeable differences among the students?

3. How about the students' engagement with the online lessons and activities, compared with before at school? Do you think the students' motivation is influenced during the online teaching? If yes, what are the changes?
4. What do you think could be the advantages that online studying bring to the students? How about the disadvantages?
5. Before we talked about the adjustment of the teaching pattern, what was the reasons for your adjustments in teaching or why you think you should have these adjustments?

E. (Topic) Factors associated with the school

1. How the school organizer helped you in your online teaching, especially at the early stage? What do you think about the role your school plays in the online teaching?
2. What are the school's requirements in your daily teaching work? Do you think these requirements have effects on your work or the students' online studying? If yes, how?
3. How did you cooperate with your colleagues? Have you ever assisted or got help from other teachers?

F. (Topic) Factors associated with parents

1. Do you think the parents have influence on your teaching work and the students' online learning? If yes, how?
2. How about the left-behind children (i.e. the children with one or both parents working outside, the children are cared by grandparents or relatives)?

Appendix D: Interview questions for students

A. (Topic) Outcomes of online studying from students' view; Feelings and attitudes

1. What do you think about the quality of your studying during the online studying period ?
2. How is it compared to your studying before at school? Why do you think these differences exist?
3. Do you like studying at home in an online pattern? Why? Are there any points that you don't like? Why? How about the studying at school before?

B. (Topic) Class engagement and motivation; Studying atmosphere in the online class

1. Compared with the lessons before at school, do you think you are more focus in the online lessons, or you feel you are more easily distracted? Why? Have you ever been absent in the online lessons? Would this happen at school?
2. How about your motivation in studying? Do you feel more likely to study at home or at school? Why?
3. How about other students or your classmates? Do you think they are more willing to study or less willing to study in the online lessons? Do you think their attitudes or the atmosphere in the whole class have influence on you? Why?

C. (Topic) Key factors or difficulties in online studying from the students' view

1. From the very beginning to now, what do you think hindered your studying at home in an online pattern? How did you overcome the difficulties? What are the problems that still exist?
2. From the very beginning to now, what do you think could be the advantages or conveniences in studying online? How did these points help you in your study? For example?

D. (Topic) Support from the teacher; Teacher-student relationships

1. How did your teachers help or instruct you in your online studying? Do you think this is essential in your studying? Why?
2. How is your communication with your teachers now, compared with before at school? Do you think you get sufficient help from the teacher? If possible, what else you want get from the teachers?
3. How did this period of online teaching affect your relationship with the teacher? Do you have any emotions or feelings towards your teachers? Do you think your feelings or attitudes to different teachers have influence on your studying? If yes, how?
4. Which subject do you like best now? Do you think the teacher is one of the reasons that you like the subject? Why? Which subject or online lesson that you are not motivated in learning? Is it connected with the teacher? Why?

E. (Topic) Support from the parents; Collaboration with the students

1. How did your parents or relatives help or instruct you in your online studying at home? Do you think this help or instructions are essential in your studying? Why?
2. Do you think you get sufficient help from the family? Do you experience disturbing situations studying at home? If possible, what else would you want get from your parents or relatives?
3. How is your communication or collaboration (help each other) with your classmates in the online studying? How is it compared with before at school? Do you think your classmates or friends have effects on your studying or daily life?

Appendix E: Participant Introduction letter

Participant Introduction letter (teacher)

The title of the research project

The Situation of Online education during COVID-19 pandemic in Provincial Chinese Schools

Invitation

You are being invited to take part in a research project. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the purpose of the project?

The purpose of the project is to investigate the online education situation in Chinese provincial primary school and middle school during the pandemic of COVID-19. The topic includes the effects of online teaching and online lessons, teachers and students feelings towards the online teaching, the difficulties teachers and students encountered and the solutions or experiences they have in the online teaching. The research project could get a better understanding of the forced long-term online education during the pandemic of COVID-19 and potentially help the schools or students that are still in online education worldwide.

Why have I been chosen?

You and another participant teachers and students was recruited based on voluntary rule. Taking part in this research is entirely voluntary and that refusal to agree to participate will involve no penalty or loss of benefits. It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw at any time without it affecting any benefits that you are entitled to in any way. You do not have to give a reason.

What do I have to do?/ What will happen to me if I take part?

If you participant in the research, three of your classes will be observed, you will be interviewed. In the online class observation, the whole class will not be disturbed with any case and only one researcher will joining and observing the class quietly, writing some notes and recording the sound in case some words will be missing. In the interview, there will be 6-10 open-ended questions asked by the interviewer about the studying activities, students and related affairs. Some of the questions will be asked in depth. The whole process will last for 1.75 hours for the observation would takes 45 minutes and the interview will take about one hour. Some documents associated with studying activities will also be sought based on voluntary rule. There will be no other restrictions other than the questions or subjects in the interview.

What are the possible disadvantages and risks of taking part?

Your personal information will not be exposed to the researcher and in the whole research process, anything about you will be represented with pseudonym in the research. Some of the questions in the interview might be sensitive since several of the questions are about your opinions or attitudes towards another person (the students).

What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will contribute a deeper understanding about the situation of the online teaching during the pandemic, this could benefit the exploration of a better solution for long time forced online teaching in the nation and worldwide.

Use, dissemination and storage of research data

The data will only to be used in research in research institutions like Universities. Storage of research data will also be conducted in university storage for safety (M drive in University of Leeds). The publishing of the data results will be conducted on publish journal articles.

What will happen to my personal information?

In the whole research process, the personal information of participants will not be exposed to the researcher in any time for any reason. The participants will be identified as special numbers, each participant will have one number throughout the whole research process. What you tell the researcher will not be shared with any students, teachers or school.

What will happen to the results of the research project?

All the contact information will not be collected in the whole research project; the unique identity number for each participant will be allocated by the participant school or the head teacher, beyond the researcher's access. We will also take steps wherever possible to ensure the anonymity of the potential personal information appears in research data so that you will not be identified in any reports or publications.

Hopefully, the research results and conclusion could be published in about September 2021. You can get an electronic version once the research result was published. You will definitely not be identified in any report or publication. The result of the data could be potentially used for additional or subsequent research.

Who is organising/ funding the research?

The research is organised by the researchers themselves and self-funded.

Contact of the researcher for further information

Ph.D. student contact details	
Name (title, first name, last name)	Mr. Wei Du
Department/ School/ Institute	School of Education
University of Leeds email address	edwd@leeds.ac.uk

Primary supervisor's contact details	
Name (title, first name, last name)	Dr. Martin Lamb
Department/ School/ Institute	School of Education
Telephone number	+44(0)113 343 4620
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Second supervisor's contact details	
Name (title, first name, last name)	Dr. Indira Banner
Department/ School/ Institute	School of Education
Telephone number	+44(0)113 343 4637
University of Leeds email address	I.Banner@education.leeds.ac.uk

Appendix F: Consent Form of Study 1

Consent to take part in Online education during COVID-19 pandemic in two provincial Chinese state schools

	Add tick “√” next to the statements you agree with
I confirm that I have read the information letter. I can understand it. I have had the opportunity to ask questions.	
I know that my online lesson will be observed. I agree for my words to be stored and used in research in future, without showing my name.	
I understand that I can drop out at any time without giving a reason.	
I agree to take part in the above research project.	

Name of participant	
Participant’s signature	
Signature of guardian (parent)	
Date*	

*To be signed and dated in the presence of the participant.

<i>Project title</i>	<i>Document type</i>	<i>Version #</i>	<i>Date</i>
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Online education during COVID-19 pandemic in two provincial Chinese state schools	consent form for the participants	1	24/07/ 20
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Appendix G: Signed Consent Form Example of Study 1

School of Education 教育学院



UNIVERSITY OF LEEDS

“COVID-19 新冠疫情期间中国两所地方性公立学校的在线教育”（课堂观察）参加同意书

	在同意的项目后划“√”
我确定我已经读了信息介绍信。我可以理解上面的内容。我有问问题的机会。	<input checked="" type="checkbox"/>
我知道我上网络课程的时候会被观察。我同意我说的话在不显示我的名字的情况下被记录和将来用于研究。	<input checked="" type="checkbox"/>
我知道在这个研究中不会显示我的名字，我知道学校没有人会知道我说了一些什么。	<input checked="" type="checkbox"/>
我知道我可以在任何时候退出，不需要理由。	<input checked="" type="checkbox"/>
我同意参加这个研究项目。	<input checked="" type="checkbox"/>

参加者姓名	[Redacted] 洋
参加者签名	[Redacted] 洋
监护人（家长）	[Redacted] 洋
日期*	2020年7月

*在参加者在场的时候签名和填写

课题名称	文件类型	版本类型	日期
COVID-19 新冠疫情期间中国两所地方性公立学校的在线教育	参加者同意书	1	24/07/20

Appendix H: Example of the transcribed teacher interview of study 1

Interviewer: How did being forced to teach online during the pandemic affect your work?

Interviewee: I'll be honest with you, this person, he is a teacher and he is also faced with the difficulties of this society, and he is constantly challenging the difficulties, adapting to the difficulties, and you encounter these difficulties. You can't say that education has to stop, right, you still have to move forward, ah, isn't it? Students still have to attend classes, right? You can't say that the problem has come out, you just think of a solution, isn't it?

That his solution is always more than the problem, to be honest, so that the total of what problems he appears, I can always find a way to solve, he is always no way, but to solve him is a level, is a continuous cycle, continuous improvement. You this company you see I just asked that thing with you, then see you also can't, alas homework also can't, upload the teachings students can't see, alas you later step students make suggestions, so step by step it changed over. That later and then said it uh change you to change the homework when you correct, when you criticize, alas I think quite good, he this software seems to be also not like specifically for reform a little thing to do what, I think this is very good, they are specifically adjusted I know right? You say I myself after the reform, you, you this student did not finish the reform, is not I can't submit, but also can repeat repeatedly change. For example, I change the time also change the wrong time, but I just do not submit, but also can repeat change again, change two times change three times, repeatedly change.

It is the equivalent of a robot that is constantly giving feedback or feedback from the frontline teachers.

Interviewer: So what is the pattern of the lessons, when the epidemic is in progress?

Interviewee: He is like this, you have a class you put PPT can also, ah uh class he that inside I see that live when he has three, bar one is standard mode, one is shared mode, and one is and one is video?

One is a video mode is a conference mode, well equivalent to a common continuous wheat, we generally use a shared mode, we are not engaged in professional anchor after all, alas he we generally use the shared mode shared mode, this inside there is put PPT, I can direct the teacher to explain, is not the? I'm not sure what you're talking about, but I'm not sure what you're talking about, but I'm not sure what you're talking about, but I'm not sure what you're talking about. I prepared tomorrow's lesson, prepared after I'm sure this evening I put the teacher to the student's homework corrected after, alas I think tomorrow can be said so coincidentally place. I'm sure I'll be able to correct the students' homework this evening.

Interviewer: What is the impact on your overall feelings about your work, such as the length of time you work and the overall feeling of your work?

Interviewee: Well, I think the epidemic has had some people saying, "Well, it's not easy for teachers to work for a year, isn't it? Well, with all due respect, it's more tiring than going to work. Why is it more tiring than going to work? I'll tell you, isn't it the first thing that means that when I'm at work, because I'm in contact with students at work, I can talk to them face to face at any time, you know? It's very convenient, but I can't give students a private chat in my air classroom.

If I don't do enough homework, I can't say that I have a problem, and I can't say that I have a problem with a student. You know what? So this time I just did my homework very solidly. Is it that it must be the equivalent of a tent, I just want to be able to take the classroom content, the classroom of this student mastery must be to palm to have a kind of grasp, to be in the hands. So that the summary of generally our content even uh as if the also rehearsed once, indeed so to speak. Alas because you people's various aspects in preparation he always still has mistakes.

For example, there are times when you for example, I type this do class when there is a word or which place is wrong, is not alas we then is the classroom we also have the wrong it, is not there is that students do the homework a shot, also sent to my WeChat (Chinese social media application) inside, alas sent to my WeChat inside what is it? That is a class group, bar class group a hair, alas at that time I was not right head, I felt that always feel short of what. The student between him this and, a student he said teacher you so engage not, his students can copy, he said you can't uh separate to you this is private send me. Ah because I want this line, bar I'll put our class students, each student I build a private Weibo (Chinese social media application) with him, are private send outside, I this can also say

you give me a single contact, but this but to my workload is also very big, you think you want him a class on how many students you will also have to build how many accounts, ah is not the? You think about the difficulty of this, even though it is said that students can avoid taking this assignment and plagiarizing each other, but for the teacher this work difficulty ah is not how many times you increase?

Appendix I: Example of the transcribed student interview of study 1

Interviewer: What is the effect of studying online?

Interviewee: Studying at home is not as good as studying at school because there is no teacher to keep an eye on you; not that you have to study, at school the teacher keeps an eye on you and you are at least reminded all the time that you have to study and we shouldn't do anything else at this time. That certainly in school is easier to listen to understand some, because because you have a will not be the problem, you will not be able to put forward on the spot, and then then but in the online class, you, on, um is that you are there for example, um speaking comments out of words, the teacher can when invisible, and then some times rush time will not look directly, on the direct speaking of the following, so in school effect better some. You're more willing to learn at school because firstly you're at school and you're at home definitely two completely different environments, um like, yes and then secondly you're at school and you know that is you're competing with him, you're competing with a certain classmate, you know he's learning, so that means you're also learning to compare with them with them.

Interviewer: How do you feel about your ability to concentrate? For example, do you feel that it is easier to concentrate in online classes, or that it is easier to get distracted?

Interviewee: It's easier to get distracted, because when you're in the classroom, the students next to you love to learn, and then you look at them and think, "Oh, I should study too."

Interviewer: Do you think that the atmosphere or the environment of your classmates will affect you, right?

Interviewee: Yes

Interviewer: Have you ever had a change in your motivation at home, for example, if you feel you can't go to class because of the epidemic, then I feel more motivated to study, or?

Interviewee: This varies from person to person. I'm a bit of a slacker, basically if my dad doesn't push me, I don't even want to write my homework.

Interviewer: Just at home, right?

Interviewee: Yes

Interviewer: It's worse than school, right?

Interviewee: It's much worse, because at least you're like me in class where I sleep and the teacher can still point me up, so I can stand for a while and I'll probably be awake and I'll listen in a little bit. Mum and dad are not home, my grandparents are basically just me in class to him, don't bother him in class, then go away, basically I I'm in the middle with me as the origin, well with the bed as the radius to draw a circle, they are not close. Mum and dad are out working.

Interviewer: What aspects of the internet classes did you find troubling or did they have a bad effect on you?

Interviewee: Well, the main thing is that it's not strictly regulated; it's too free and too liberal. For example, you are completely alone at home and the teacher doesn't know what you are doing, the teacher doesn't know and can only say that you are coming through. Ah for example ah take a classmate to make a one or say a point teacher in the class roll call when he said a zinger, just like this. The other teachers can't see what your specific learning situation is like. The other teachers can't see what your specific learning situation is like. I don't think there's anything like home because it's New Year's Eve, but I think there's something like that time when school starts, so maybe it's noisy when you're at home, walking with relatives, or when there's a lot of people, and then it has a little impact on your learning environment.

Appendix J: Example of the Coding teacher interview of study 1

Interviewer: Do you feel that you have encountered any difficulties or problems in the process, for example, from normal schooling and then to this phenomenon?

Interviewee: No. The difficulty is that I think the students' self-motivation is too poor, that is, I think in this kind of students' ability is not I think their requirements can't reach yet this kind of independent learning, I think maybe Wuhan ah kind of big city students can, but I think for our township school is very unrealistic, because some students they will copy the homework, have copied exactly the same, oh, and uh I am a little bit better, is that I have a language teacher in the class next to mine, he didn't rush that student to hand in his homework, well that student never handed it in, then he called that student every day and did that student blacked him out. But there was no way out. I think there is another problem that I think is very serious, which is that we can't keep up with the educational resources. And then some families have a girl in our class one day who didn't attend class, and then they called him, and his father said his father went out, and then they didn't have a mobile phone at home, so they couldn't go on. I think this is a problem. And the third problem is that it's easy to lose power, just like you guys, it rains sometimes here, right? Then the power goes out, and after that, five, six, six or seven students won't be able to attend classes.

Coding:

(There are many difficulties: students are less self-motivated, participation in class is reduced, there is often plagiarism in assignments, teachers have less control over students, they can't communicate with them, there are also bad home environments, there are not enough mobile phones, there are problems with the internet, it rains or there are power cuts and five, six or seven students don't attend class)

Appendix K. Teacher-Student Relationship Scale

(Brinkworth et al. 2018)

Student items

Teacher items

Positivity sub-scale

- | | |
|--|--|
| 1. How much do you enjoy learning from
⟨teacher's name⟩ ? | How much do you enjoy helping ⟨student's
name⟩ learn? |
| 2. How friendly is ⟨teacher's name⟩ towards
you? | How friendly is ⟨student's name⟩ towards you? |
| 3. How often does ⟨teacher's name⟩ say
something encouraging to you? | How often do you say something encouraging to
⟨student's name⟩ ? |
| 4. How respectful is ⟨teacher's name⟩
towards you? | How respectful is ⟨student's name⟩ towards you? |
| 5. How excited would you be to have
⟨teacher's name⟩ again next year? | How excited would you be to have ⟨student's
name⟩ again next year? |
| 6. How motivating are the activities that
⟨teacher's name⟩ plans for class? | How motivating does ⟨student's name⟩ find the
activities that you plan for class? |
| 7. How caring is ⟨teacher's name⟩ towards
you? | How caring is ⟨student's name⟩ towards you? |
| 8. How much do you like ⟨teacher's
name⟩ 's personality? | How much do you like ⟨student's name⟩
personality? |
| 9. Overall, how much do you learn from
⟨teacher's name⟩ ? | Overall, how much does ⟨student's name⟩ learn
from you? |

Negativity sub-scale

- | | |
|--|--|
| 1. How often do you ignore something
⟨teacher's name⟩ says? | How often does ⟨student's name⟩ ignore
something you say? |
| 2. During class, how often do you talk when
⟨teacher's name⟩ is talking (for instance,
when you are supposed to be listening)? | During class, how often does ⟨student's name⟩
talk when you are talking (for instance, when
⟨student's name⟩ is supposed to be listening)? |
| 3. How often does ⟨teacher's name⟩ say
something that offends you? | How often do you say something that offends
⟨student's name⟩ ? |

4. How unfair is <teacher's name> to you in class? How unfair are you to <student's name> in class?
5. How angry does <teacher's name> make you feel during class? How angry do you make <student's name> feel during class?

Note: Response anchors were arrayed along five points. For example: Not at all/Slightly/Somewhat/Quite a bit/A tremendous amount; Not at all friendly/Slightly friendly/Somewhat friendly/Quite friendly/Extremely friendly; Almost never/Once in a while/Sometimes/Frequently/Almost all the time; or Almost nothing/A little bit/Some/Quite a bit/A great deal.

The translated and piloted Teacher-Student Relationship Scale in Chinese:

师生关系量表 (Brinkworth et al., 2018)

(说明: 这个量表共有 14 个问题, 包含 9 个积极性和 4 个消极性问题, 尤其是消极性问题可能涉及到一些敏感话题, 老师也认为消极的情况也是很少出现的, 但是它们的存在能够更好的帮助得到准确结果, 在未来帮助更多有需要的同学。希望你根据自己的真实感受选择答案, 在题目后面 5 个格子内选择合适的答案打“✓”即可, 谢谢你的参与。)

学生量表

你的编码是: _____

积极性分量表

问题

1	跟着某老师学习快乐吗?	几乎不会	偶尔一次	有时候	经常	几乎总是
2	某老师对你是不是亲切友好?	不友好	稍微有一点	基本友好	比较好	一直很友好
3	某老师经常鼓励你吗?	几乎不会	偶尔一次	有时候	经常	几乎总是
4	某老师对你有礼貌吗?	几乎不会	偶尔一次	有时候	经常	几乎总是
5	你期待下学期/学年依然是某老师教你吗?	完全不期待	稍微有一点	基本期待	比较期待	非常期待
6	某老师的课堂上的学习活动有没有激发你的学习积极性?	几乎不会	偶尔一次	有时候	经常	几乎总是
7	你觉得某老师对你关心/关爱吗?	几乎没有	稍微有一点	有一些	比较多	非常多
8	你喜欢某老师的性格/个性吗?	几乎没有	稍微有一点	有一些	比较多	非常多
9	总之/总体而言, 你觉得跟着某老师学习你的	几乎没有	稍微有	有一些	比较大	非常大

收获大吗? 有 一 点

消极性分量表

问题

1	某老师说的话, 你会有当耳旁风(听到了却不遵从)的情况吗?	几乎不会	偶尔一次	有时候	经常	几乎总是
2	某老师上课讲课或者对全班讲话的时候, 你会有插嘴或者和别的同学讲小话的情况吗?	几乎不会	偶尔一次	有时候	经常	几乎总是
3	某老师有没有对你说过让你不舒服或者难受的话?	几乎没有	偶尔一次	有时候	经常	几乎总是
4	你觉得某老师在班上有没有对你不公平过?	几乎没有	偶尔一次	有时候	经常	几乎总是
5	某老师上课有没有让你生气甚至愤怒过?	几乎没有	偶尔一次	有时候	经常	几乎总是

教师量表

该学生的编码是: _____

积极性分量表

问题

1	帮助该生学习你快乐么?	几乎不会	偶尔一次	有时候	经常	几乎总是
2	该生对你友好吗?	不友好	稍微有一点	基本友好	比较友好	一直很友好
3	你会经常对他/她说一些鼓励的话吗?	几乎不会	偶尔一次	有时候	经常	几乎总是
4	该生对你尊敬吗?	几乎不	偶尔一	有时候	经常	几乎总

			次			是
5	如果明年该生 还会在你的班上 ，你会高兴/兴奋吗？	完全不期待	稍微有一点	基本期待	比较期待	非常期待
6	该生对你课堂教学活动的 积极性 大么？	几乎不会	偶尔一次	有时候	经常	几乎总是
7	你觉得该生会比较 关心你 吗？	几乎没有	稍微有一点	有一些	比较多	非常多
8	你喜欢该生的 个性/性格 吗？	几乎没有	稍微有一点	有一些	比较多	非常多
9	总之/总体而言，该生跟你学习 收获大 吗？	几乎没有	稍微有一点	有一些	比较大	非常大

消极性分量表

问题

1	该生会 忽视或者不听 你说的话吗？	几乎不会	偶尔一次	有时候	经常	几乎总是
2	你在课堂上讲课或者 讲话时 ，该生有插嘴或者和同学 讲小话 的情况吗？	几乎不会	偶尔一次	有时候	经常	几乎总是
3	你有说过 冒犯 该生或者让他/她听了不舒服的话吗？	几乎不会	偶尔一次	有时候	经常	几乎总是
4	你在班上有对该生 不公平 过吗？	几乎不会	偶尔一次	有时候	经常	几乎总是
5	你在课堂上有让该生 生气甚至愤怒 过吗？	几乎不会	偶尔一次	有时候	经常	几乎总是

Appendix L: Interview questions for teachers

1. Why do you choose teacher as your occupation? What are the motivations in your career? In your opinion, what is the role a teacher plays in front of the students? (If the teacher don't know where to start, clues can be given:” like guardian/parent at school, adult friend, or professional staff to help them with study”) What do you think of TSR in school and in classroom? How do you value the importance of TSR, compared with the subject/knowledge teaching? Why do you have these beliefs?
2. How are your relationships with your students, in the class level and with some specific students? We all know that every student is unique and different, what do you think of students with different personalities and in different situations, like extrovert or introvert, different academic achievements and students from different social-economic families? Do you have different strategies and approaches when you are guiding them or communicating with them?
3. Do you think that differences in TSR will impact on students? If yes, what will these differences bring? Do you think that the students' behaviours or emotions in their studying, school activities or other aspects have connections with their teachers? If yes, what kind of connections?
4. How long have you been teaching your students in this class? How do you build up the relationships with them at the very beginning? How do you maintain it as time goes? What do you think could be channels or approaches to construct your relationships? (If the teacher don't know where to start, clues can be given:” like in class/teaching activities, school activities or connection out of school”)
5. Would you see the feedback of your relationships with the students, in the whole class or with specific student (If it is difficult for the interviewee to understand, the question could be: how do you assess your relationship with the whole class of specific student)? If yes, how can you get the feedback? Would you make the decision depends on students' classroom behaviour and academic achievement, or? Would you make adjustment after getting the feedback?
6. What do you think could be the promoter in building up relationships with students? Are there any obstacles? Do they think these factors are from the school policy? From the student factors? Or? How do you overcome these obstacles?

Appendix M: Interview questions for students in focus group

1. Do you have special feelings at some of your subjects/classes or teachers? (If the students do not know where to start, clues could be given like: some classes/teachers you like specially, or think interesting, useful, nervous, taken seriously) How about teacher X (the current successful) and his/her classes, and how that might differ from another teacher?
2. How do you feel about your relationship with teacher X (If the students don't know where to start, clues can be given:” like do you feel very close to him/her or general, do you fell especially fond of him or not too much)? Except for teaching you knowledge in class as a teacher, does him/her sometimes like another role (clues: parent who car and protect you, or friend who support and like you) when you are together? Why do you have these feelings? Is this unique compared with other teachers?
3. Because of teacher X, do you have different feelings in his/her classes or in studying the subject he/she taught? Is this unique compared with other teachers' classes/subjects? Could you please describe why you have these different feelings or behaviours?
4. Will the relationship or feeling/behaviour change at some point? Like what kind of things happen that could make you feel positive (like more close of fond of) towards teacher X? Is there any opposite situation? Do you remember situation that teacher X firstly became your teacher?

Appendix N: Classroom Observation Scheme

The classroom observation is semi-structured, with focused aspects but will gather data to illuminate these issues in a far less predetermined manner and an open-ended attitude. The format of the data recording will be a memo-style record with audio recorded to ensure credibility. A personal laptop will be used for word processing to record everything I see, hear, and otherwise acknowledge within the given class during the 40- minute observation.

Group/Individual Being Observed: _____

Location: _____ Grade/Subject: _____

Beginning Time: _____ Ending Time: _____

Focused aspects: (teacher's words and strategies; students' engagement and reaction; social interaction between teacher and students; the classroom climate and environment)

Time Stamp	Action Observed	Interpretation/Running Thoughts
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Appendix O. Picture-painting instrument

(Harris, Harnett, and Brown 2009).

Draw a picture of the subject “Me and my teacher”. This picture can be about what you think it is like and how you feel when you think of it. Include a caption below explaining your painting.



Caption:

Area for writing the caption explaining the painting.

Appendix P. Pilot of the teacher interview (translated partly)

1. Why do you choose teacher as your occupation?

Because I am the one who likes English, I majored in English ,and then I came back to be an(English) teacher, partly because I want to be with my family, and also I feel teacher as a profession is more secure. Then I hope that I will be a teacher. Do you know? There have been a lot of teachers in my family such as my brother, my sister-in-law. So I might be familiar with this profession. That familiarity has been developed from an early age.

What are the motivations in your career?

Internal motivation, well, From my personal point of view, I thought a lot when I was in college, when I was planning about my future career, At first, I would like to work as a teacher in the private training institution instead of traditional public school where I am working now. But then I found out another thing. In fact, although I can earn much more money in private institutions, it is not the same as I thought. I have not worked in that kind of institutions. But I have heard from others describing what institutions might be. I prefer to be this kind of teacher whose life is relatively simple. This is more suitable for my personal characteristics. Another reason is that I really enjoy help answering students questions and give some advices. Just like the Chinese old poem “Teacher is the one who could propagate the doctrine, impart professional knowledge, and resolve doubt questions.”

The good aspect of being a teacher is giving us a sense of value and also a sense of accomplishment. It makes you feel that you can help your students. Teacher is not like a profession. Because you can't get visible profit or something from being a teacher, compared to other professions. The teacher is a job of conscience, whatever you are going to do, You are guided by your own conscience.

Is your teaching of good quality? Sometimes you have a scale in your heart to measure (make it clear in your own mind).As regard to students, I really like them. They sometimes are really annoying and naughty, making me angry or upset. But I still like them very much. Every time I see that their happy face, I will also be in a particularly good mood. I feel quite satisfied with the relationship with my students.

2. In your opinion, what is the role a teacher plays in front of the students?

I think a teacher should also be a friend. Even if your students are young elementary school students. I also have teaching experience in junior high school. But I prefer getting along with the children. They demonstrate their emotions and feelings in an explicit, relatively straightforward way. After entering puberty, the middle school students are in a fluctuating period with chaotic ideas. They don't know themselves clearly and thoroughly. Compared to them, children are more simple and stable.

From your teaching experience, there may be an obstacle in students' study if you are too strict with him or you distance yourself from them. Students may also have a certain alertness to your subject. They work hard because of your strictness. Your power lets them think that they have to study this course well, but in fact, from their own heart, they do not know why they need to do this. I want my students to feel that they like it very much. In the class, they like the information I have conveyed, and then discover some deeper theoretical ideas by themselves.

I have taught several students, I was particularly happy when a student in the sixth grade told me "I want to be an English translator because I like English and want to do things that are especially related to English." I found that I inadvertently planted a seed for him, and then the seed has taken root and grown. I felt quite pleased, but on the other hand I was very afraid. I was thinking what might happen if I have given him a bad seed. The bad seed will still begin to take root and grow. I paid more attention to my own words and deeds after then. I think teaching is a very powerful and even scary thing. In the past, I always heard people saying that teachers should educate students with their love. I thought it is just an empty and meaningless slogan before I start my career.

Now I feel that is true. If all your starting points are to love him, you are more likely to do the right things. This love is not the love between

parents and children. Parents tend to expect their children to do what they expect children to do as they think they have chosen best things for them. I discussed with some of senior teachers and we all agreed that the responsibility of a teacher is not to tell the students what to do, but to help the students to discover the true feelings of his heart, let him know what he wants to do, help him to better understand herself, and then know what the real deep thought is. I do want to be a leader and a guider, not to be a decision maker. I will guide you to discover, I will guide you to observe. Students will make better choices based on observations and their own discoveries. You can't use your own experience to judge for him or hint at them. This is the goal a teacher should achieve.

I found kids change a lot every year and they show higher variety in higher grades. Some kids start showing strong unwillingness to study especially in some classes,. In fact, in the lower grades, they are very simple and curious about knowledge. English is a very weak subject, or say a subject which have not gained enough attention. Both children and parents feel they/ their kids have learned English for many years without making enough progress. This is a common phenomenon in my situation.

Then the children feel tired of learning and give up this subject gradually. In fact, at the beginning, when get touch with them, they are all ambo learn. Change occurs gradually. What are the underlying reasons? This is a complicated problem. It is too complicated and will not solve this problem for a while.

What do you think TSR should be like in classrooms?

You and the students are definitely friends and friends. But the relationship with students has a limitation.

You cannot let the students feel you're over-intimate with them is the same. There will be no boundary between you and students, they will be very casual. Today's kids aren't like kidin the past who have strong sense of regulations. Now the children are exposed to numerous information, as a result, they are more active with more ideas.

So if you make boundaries too vague, they may get confused and blur out identities. For example, they may think they can replace you or line some of the teacher's right when you are not in classroom. They may use your tone to reprimand other students and order other students to do something. This will result in your teaching and management difficulties. Also they feel they can enjoy privileges. They think they can do something that is clearly prohibited as they have a good relationship with the teacher. For example they may say "I do not want to write homework." This is not acceptable. you still have to make the boundary explicit.

Appendix Q. Pilot of the student focus group interview (translated partly)

1. Do you have some classes/teachers you like specially ? Why? How that might differ from another teacher?

Yes, our biology teacher, the one taught us last semester. She is 1. Humorous, 2. Have a very good understanding of teaching content.

2. How do you feel about your relationship with the teacher (the previous biology teacher)?

She is very interesting. She is close to us.

3. Because of this teacher, do you have different feelings in her classes or in studying the subject she taught? Is this unique compared with other teachers' classes/subjects? Could you please describe why you have these different feelings or behaviours?

In the poor (not good enough) teacher's classes, poor (low academic level) students will sleep, they have no spirit. They have no interests about the class, and will sleep especially in the afternoon. But when the good teacher is lecturing, poor students will listen carefully. The teacher will also ask questions, there are also classroom activities in the teaching process. The class of the good teacher (the biology teacher) is fun. She calls the roll using a random software, random names of the students in the classroom. It has a very good effect (make the class interesting) and our Chinese teachers also learnt this from her. Students will also discuss and go to play with the teacher after class. The current teacher (new coming biology teacher) is listless in class. Some students even want to go to the principal, propose to change the teacher to the previous one.

The poor students, in her class will also do very well. She teaches us students to remember the knowledge, and also this is in a fun way.

(The interviewee mentioned that this is the feeling of majority of the students.) But the regular teacher's class is very uncomfortable, do not want to listen. We want to go to class because we think it's fun.

When did you found the teacher you like (the previous biology teacher is interesting) ?

The first class we have already found it is very interesting. She will talk about her own life. She will talk about objects in real life and bring to the classroom, such as yogurt, when she is explaining the knowledge when she needs some examples. And after that class, she even give the yogurt to us.

What kind of things happen that could make you feel positive (like more close of or fond of) towards the teacher?

One teacher said when he is assigning homework:" If you have some questions that you don't know how to do, you can simply leave them there. That's OK for me. You can ask me to teach you later. That's not a big problem" The teacher's words is very positive to me. And then the poor students are also willing to finish these homework, their grades also got improved.

How about the negative parts or strategies the teacher have in your class?

There is a Chinese teacher likes to use the punishment of copying. And sometimes the teacher might punish you to do frog jump, or stand in classroom during the class. The students do not like these; they have no motivation in studying.

There is also a Chinese teacher we once had is presenting us interesting classes. Her classes were fun and good. You should definitely play with your students. They must be interested in your lessons then they can learn. Students can't learn well if you can't get along with them. The teacher is funny, than you can feel this class is funny. You would like this class more, and more carefully in studying. Many of us are like this.

Many teachers still don't know their students very well. The opinions of many students should be the same, like this. The teacher who is very serious, very strict, (you will feel he) is so-so, just average. Then you don't want to take this course.

The teacher who could consider the difficulty of students. The students would feel the teacher is saying something directly to the bottom of our heart.

Appendix R. Pilot of the classroom observation (memo)

Group/Individual Being Observed: A class in Grade 5, Chinese Primary school

Location: Primary school in town, China Grade/Subject: Grade 5 Chinese

Beginning Time: 9:30 Ending Time: 10:10

Focused aspects: (teacher's words and strategies; students' engagement and reaction; social interaction between teacher and students; the classroom climate and environment)

Time Stamp	Action Observed	Interpretation/Running Thoughts
0-5 minutes	1.the whole class stand up, greeting and bowing to the teacher, teacher greeting and bowing back	showing mutual respect
	2.teacher use words with "please" and gestures like inviting someone when she have conversation or questions asking with students	politeness

**6-10
minutes**

3. when student asking questions, teacher will walk close and gazing at him/her eyes shows careful and big interests

4. when the teacher is lecturing and explaining the knowledge, she is very focus in the whole process, and her eyes is always moving around to watch the students in the whole class focus and attitude of the teacher is good

5. when the teacher is saying something about the whole class, she always say “us”

6. go into the deep part of the classroom and communicate with the students answering questions

7. a student can't answer a question, give back a sorry laughing

8. almost all the students are paying attention to the teacher's questions, some times the questions are answered by the whole class in chorus

9. for most of the questions, the teacher is enquiring gently

10. the students' feedback is often peaceful, or flat

11. positive feedback like nodding head or words agree were given

after students' answering

**11-20
minutes**

12. lots of questions are asked, students have a good engagement in thinking and noticing

13. the reaction and engagement of students is active, like there are always several or more students are raising their hands, wanting to answer the teacher's question

14. during the personal practise and group discussion, the teacher go to almost all the small groups in the classroom to communicate with students

15. encouragement "you will be very good" were pre-given when the teacher is seeking the student to answer the question

16. "does anyone have small suggestions for him? "when a student have not conclude all the aspects of the answer

**21-30
minutes**

17. the words and attitude is genuine when point out student's mistake, and give suggestions (attitude and feelings should not be like data, but I have to see I can feel it) "you can try like this"

18. when the teacher is explaining

an ancient poem, she played classic and comfort music, and explained slowly. The students are engaged into it, lots of the students closed their eyes, with their face looking upward a little

19. teacher's words "can you describe the image you imaged just now? If you felt it's difficult for you, you can do this with my suggestions"

the language indicates that the teacher is in a state of assistant willing to help the students

20. when there is student is answering the question, there are still other students raising their hands, trying to express their opinion

students are in an active state in the engagement of the class

**31-40
minutes**

21. in the overall situation or atmosphere of the class, the teacher is holding a discussion attitude, her words are like "I think.." and the teacher is watching the students. In the discussion, the teacher is following the students' thoughts and will then guide them.

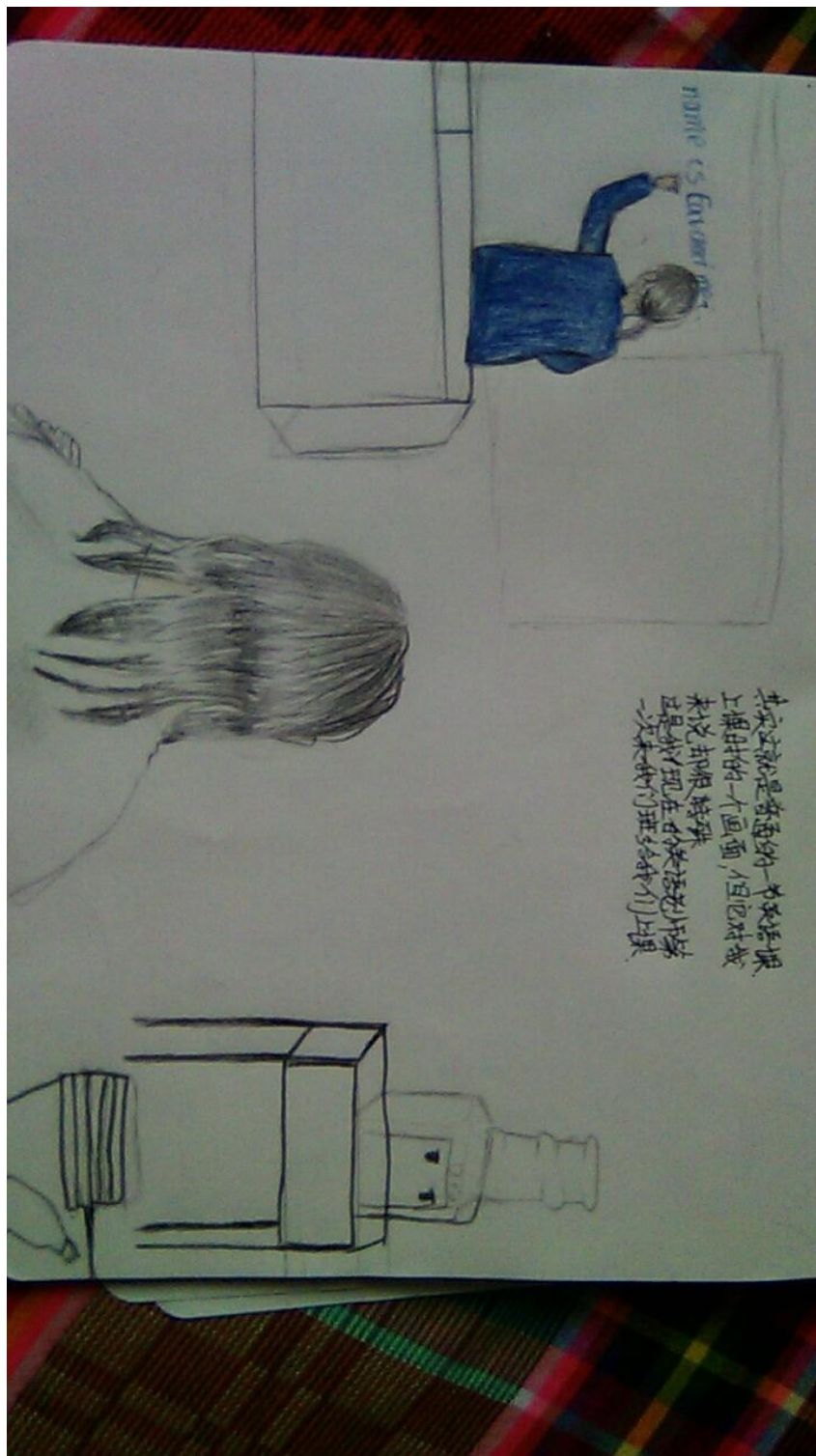
22. when the students are reading the poem together, they are almost all watching the blackboard all reading loud, focus

23. when the teacher is making

conclusion about the lesson today
on the blackboard, the students
are also making notes carefully.

Appendix S. Pilot of the subject painting

<Happy time with my teacher>

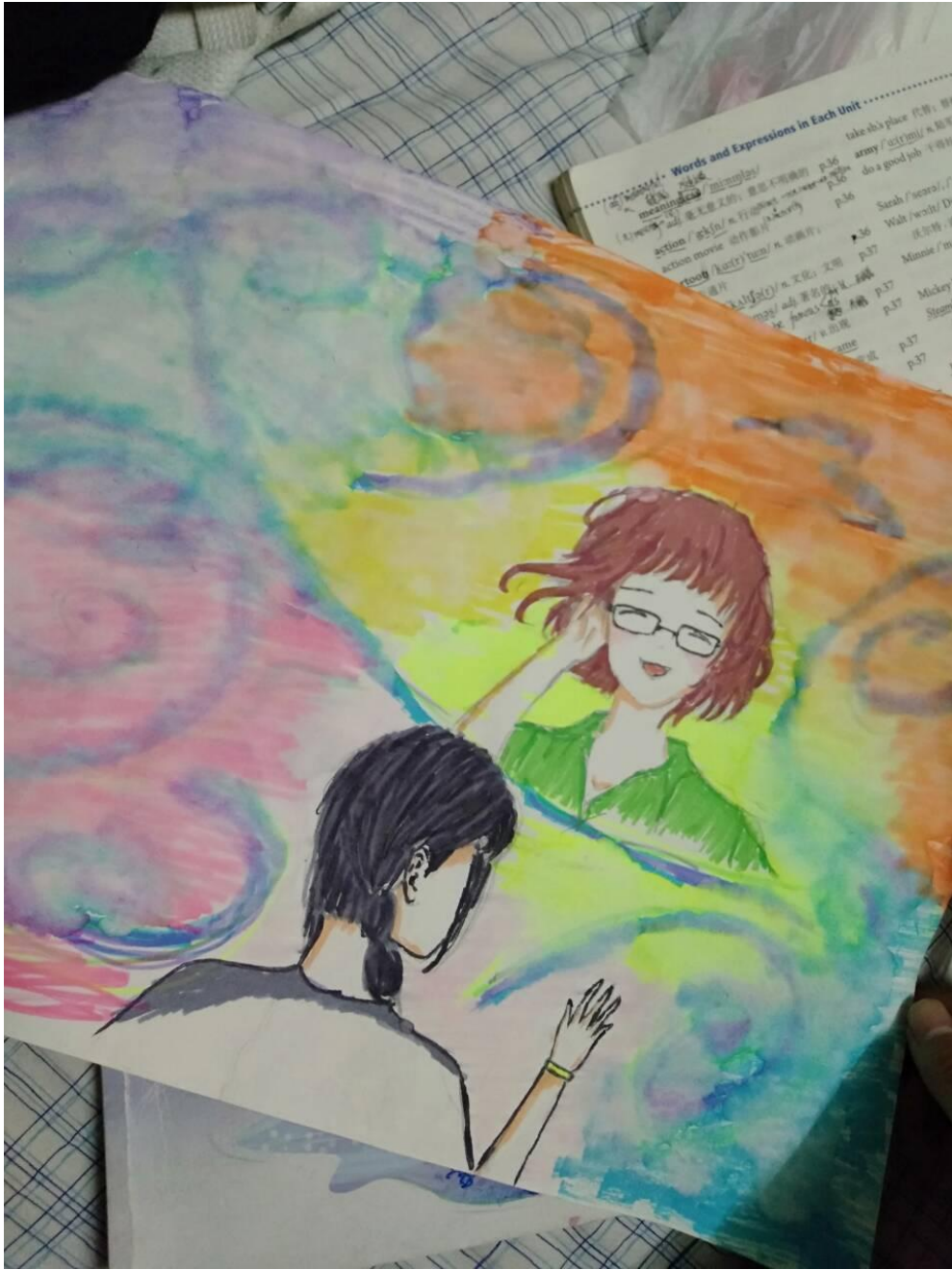


Why are you drawing like this? What's your concept in the creation of the painting?

I choose this teacher because she is funny sometimes. The first impression she gave me in the first class is better than other classes.

When she have some free time, she would come to the classroom, trying to ask us to remember more English words. Also she often comes to the classroom several minutes earlier.

She is considering about us at lot's of aspects. She often brings some home-made food and share with us. But she is also strict during the class.



Appendix T. PGR Student Other Expenses form

School of Education

PGR Student Other Expenses Rules

A small sum of money has been set aside to contribute towards other expenses necessarily incurred by students in connection with their work for the research degrees. This money should not be regarded as an entitlement as there is not an allocation per student. Your application will be judged by the Director of PGR Studies.

Eligibility criteria:

1. You cannot already be receiving support from a Research Council or other agency or University department which makes provision for the payment of research expenses.
2. Your claim cannot normally exceed the maximum allowance of £600 in any one academic year with a total limit of £1,500 over the course of your doctoral study including any claims made for conference attendance.

The following list explains which expenses may be applied for:

- Travel to and from libraries, record offices, etc. for material not available in Leeds;
- Travel to and from schools etc. for fieldwork purposes (this only applies to within country travel)
- Cost of essential material, e.g. printing; survey costs
- Software not available on the University network and which is essential to the conduct of the research – please contact Louise Greaves in the Student Office ext 31131
- Training that cannot be provided by the University of Leeds

You will be expected to provide original receipts for purchases – without these the claim cannot be processed. The claim must be submitted within 6 weeks of the date on the receipts.

Applications should be made using the **PGR Student Other Expensesform**.

Claims for other expenses can be made **any time during the year**, subject to the limits defined above.

***Note:** Funding limits may mean that not all applications will be successful. No expenses can be paid without prior approval of the supervisor, but the final decision is made by the PGRT. Travel between home and the University of Leeds is not an allowable item of expenditure. Expenses cannot be paid in connection with the typing and binding of theses.*

School of Education

PGR Student Other Expenses form.

(All applications must be word processed in minimum 10 pt. font)

Name: Wei Du

ID:201259510

Degree for which registered: Provisional PhD

Name of Supervisor(s): Dr. Martin Lamb; Dr. Indira Banner

Year of Study: 2

Full-time or Part-Time: Full-time

Academic Team:

Purpose(s) for which a contribution towards expenses is sought:

Please give full details (e.g. location of site of fieldwork, library, proposed number of visits; dates; sample size for survey; etc.) including estimate date(s) of expenditure. Travel should be costed on the basis of the most economical route, method and class. For travel by car in the UK, costs should be calculated at .40p a mile and 25p a mile if public transport could have been used.

The fieldwork survey will be conducted in Guangzhou, China. The survey is about teacher-student relationships in the classrooms, which requires the teachers to finish questionnaires about each student; every teacher would need to finish 50 questionnaires about all the students in his/her class. This would take the teachers approximately 80-120 minutes. A deserved payment for the teachers would be the facilitator for the conduct of the survey and to enhance the validity for the results.

In the survey, eight teachers from two schools will participant in the survey. £ 15 will be paid for each teacher; the total number would be £ 120. The estimated date of expenditure would be March 2020.

Total: 120 £

Signature of applicant: Wei Du Date: 15.11.19

Signature of supervisor: Martin Lamb Date: 15.11.19

PGRT Authorisation: Date:

This form should be returned to Louise Greaves, School of Education, Hillary Place University of Leeds, LS2 9JT I.e.greaves@education.leeds.ac.uk Tel: 0113 343 1131

Appendix U. Consent Form Example of Study 2



UNIVERSITY OF LEEDS

For a relatively low risk piece of research it may be more appropriate to add a shortened consent form below to the end of the information sheet.

Consent to take part in The Nature of Teacher-Student Relationships in Provincial Chinese Primary Schools

	Add your initials next to the statements you agree with
I confirm that I have read and understand the information letter dated 01/02/20 explaining the above research project and I have had the opportunity to ask questions about the project.	
I agree for the data collected from me to be stored and used in relevant future research in an anonymised form.	
I understand that relevant sections of the data collected during the study, may be looked at by auditors from the University of Leeds or from regulatory authorities where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.	
I agree to take part in the above research project and will inform the lead researcher should my contact details change during the project and, if necessary, afterwards.	

Name of participant	
Participant's signature	
Date	
Name of guardian	

Signature	
Date*	

*To be signed and dated in the presence of the participant.

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/ pre-written script/ information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be kept with the project's main documents which must be kept in a secure location.



Participant Information Sheet

The title of the research project

The Nature of Teacher-Student Relationships in Provincial Chinese Primary Schools Invitation

You are being invited to take part in a research project. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the purpose of the project?

Nowadays, the classroom environment and at-risk student groups is in disadvantaged situation, especially in Chinese rural and provincial schools. It is important to consider teacher-student relationships (TSR) from a whole class level, to identify teachers with a positive relationship with majority of the students and then to conduct in depth qualitative research to trace the reason. The research project could get a better understanding of the positive TSR and potentially help the disadvantaged student groups.

Why have I been chosen?

You and about 90 other participants was recruited based on random and voluntary rule. Taking part in this research is entirely voluntary and that refusal to agree to participate will involve no penalty or loss of benefits. It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw at any time without it affecting any benefits that you are entitled to in any way. You do not have to give a reason.

What do I have to do?/ What will happen to me if I take part?

If you participate in the research, three of your classes will be observed, you will be interviewed or be asked to do a painting about a specific subject. In the class observation, the whole class will not be disturbed with any case and only one researcher will be sitting in the classroom quietly, writing some notes. In the interview, there will be 6-10 open-ended questions asked by the interviewer about the classroom activities and relationships. Some of the questions will be asked in depth. In the painting, you will be asked to draw a painting about your feelings of imaginations about your teacher. The whole process will last for 4 days for about 1 hour per day. There will be no other restrictions other than the questions or subjects in the interview and the painting.

What are the possible disadvantages and risks of taking part?

Your personal information will not be exposed to the researcher and in the whole research process, anything about you will be represented with a number in the research. Some of the questions in the interview might be sensitive since several of the questions are about your feelings or attitude towards another person (the teacher).

What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will contribute a deeper understanding about the nature of TSR, the construction of a positive TSR and benefit the exploration of a better solution for educational inequalities.

Use, dissemination and storage of research data

The data will only be used in research in research institutions like Universities. Storage of research data will also be conducted in university storage for safety (M drive in University of Leeds). The publishing of the data results will be conducted on publish journal articles.

What will happen to my personal information?

In the whole research process, the personal information of participants will not be exposed to the researcher in any time for any reason. The participants will be identified as special numbers, each participant will have one number throughout the whole research process.

What will happen to the results of the research project?

All the contact information will not be collected in the whole research project; the unique identity number for each participant will be allocated by the participant school or the head teacher, beyond the researcher's access. We will also take steps wherever possible to anonymise the potential personal information appears in research data so that you will not be identified in any reports or publications.

A limitation should be announced that, a focus group will be used as a method of data collection, thus for some participants in the focus group, full anonymity cannot be guaranteed on behalf of the other focus group participants. Whereas we will still declare this before the conduction of the focus group interview in front of all the participants and request them to protect the privacy for each other.

Hopefully, the research results and conclusion could be published in about September 2021. You can get an electronic version once the research result was published. You will definitely not be identified in any report or publication. The result of the data could be potentially used for additional or subsequent research.

What type of information will be sought from me and why is the collection of this information relevant for achieving the research project's objectives?

Your feelings, attitudes or reactions about the classroom, studying activities and the teacher will asked and sought from me. These are particularly important for the understanding of the nature of teacher-student relationships and understand it from teachers' and students' perspectives.

Who is organising/ funding the research?

The research is organised by the researchers themselves and self-funded.

Contact of the researcher for further information

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The participant will be given a copy of the information sheet.

Appendix W. Example of the transcribed teacher interview of study 2

Interviewer: Students tend to have different personality traits, for example there are relatively introverted and extroverted students. Do you think this affects your relationship with students? How does it affect them?

Interviewee: For example, at the end of a class, if I finish a class, there will be a lot of students on the podium who want to talk to me about a lot of things, whether it's in class, out of class or something that happened or didn't happen, they all want to talk to the teacher and let the teacher share these things with them, so I definitely talk to those students who are willing to talk to me and they will come forward to talk to me. the students who tell me all kinds of secrets every day. Maybe. Such secrets sound to me is but they are willing to communicate definitely with these students a little bit more. The poorer students you mentioned, I wouldn't uh deliberately take the initiative to communicate with them excessively, I think if they have the kind of students who are more psychologically fragile, we have students in our class who are more fragile and who are known by their parents to be more fragile, and students who are seeing a psychologist, like these students I wouldn't take the initiative to communicate with them because they have a high level of low self-esteem themselves and place a high value on their grades, but I would not talk to these students because they have a high level of inferiority complex and value their grades, but they have low self-esteem and guilt caused by poor grades, and even say that they are particularly scared to the point of not being able to sleep at full age and start crying when the exam is over and the results are not yet available. I don't communicate too much with these students because I feel that my communication with them may cause them problems. I will only talk to them if they are willing to come and talk to me.

But, for example, I think that in learning, especially in the language, there are really 1,000 readers, 1,000 Hamlets, so in the language This aspect, as long as he can do the basic rules of learning in class, learning norms, for example, I also need him to keep an eye on the right time, he can keep an eye on the right, his attitude is serious, I am not very high on his achievement requirements, I am not very high on my class children as long as his attitude is correct, the requirements of the level is not very high, but you are really a very correct attitude, I believe that your achievement will certainly not be bad, so this is a two-way I need his attitude to be in place, you can have poor grades, but your attitude is in place,

well I will think you are OK, I will not criticise. But if your behaviour is very poor, for example, if you don't finish your homework at the weekend, I will certainly criticise you severely whether you get good grades or poor grades.

Usually those students who get very poor grades, it's because of their attitude to learning, it's because of their poor behaviour, it's only those kids who he can't finish his homework at the weekend, so it feels like I criticise them more, but I've made it very clear to the kids in our class that the only reason the teacher gets angry is on behaviour, which means you're not doing a good job with your attitude. But in terms of achievement I basically do not get angry, but rather to encourage more this way, I am taking this approach, like student communication is the same, and those who are more psychologically vulnerable students communicate more, like our class has arranged two psychological members, boys and girls, and even class members, they will real-time to observe the situation of the students in the class, and then if there are problems, they will come to the teacher in time Teacher, teacher whoever is crying. I will definitely take the time to call him over afterwards to ask him about the situation, to comfort him about how to solve the problem, and then I will also communicate with the parents in a timely manner.

It is difficult for a teacher who teaches more than 40 students to take into account all aspects of communication, so I try my best to communicate with different students every week, whether it is in the classroom when I call them up to answer questions and evaluate their answers. I try to communicate with different students every week, whether it's in class when I call them up to answer a question and evaluate their answers, or whether it's just passing by and patting them, passing by and talking to them, or maybe just asking what's happened that week. Maybe like individually, like what tasks have been assigned to him? I would try to communicate on a wide scale, because I think often a teacher's gesture, a reminder or something, a reassurance or something would do it, but certainly I don't think I'm doing it all, I'm not doing it all, but I would be aware of this communication problem.

Appendix X. Example of the transcribed student focus group interview of study 2

Interviewer: What do you think of your class teacher and her classroom? Was it different from other teachers?

Student A: No, she is nice

Interviewer: Why do you think she is nice?

Student A: Once I cried, or others cried, Rebecca consoled them all, she was very concerned about us, and she knew we were under pressure, there was also a person who couldn't do pinyin, then she said Rebecca didn't scold him, but patiently taught him, yes, she also found X (another teacher) to help him.

Interviewer: Is this feeling not present in other teachers' classes? Or is it less frequent?

Student B: It's relatively rare, especially when the maths teacher casually scolded a person, stupid, and Rebecca also said to a person you want to swear, you first copy a song, then he copied it 200 times, then the next day doubled, then later mountain is not? He copied more than one, he copied a little worse than I, the beginning of the high is 200 240, then a large number of check out the big pie class of 660,000 also want me to play, or up slowly stacked? There is no one semester clear.

Interviewer: think that for example, in addition to the time when Rebecca was in class, he taught you knowledge, like a teacher he was also like what role?

Student C: Like a friend, like a child. Sister, it's easy, right? I was 100 years old before there was a man on his blackboard, then she took a rag and changed a love heart, then Rebecca saw it and called it a love heart, it was very cute and very likeable I also felt very good, I think she can be so young from new for sure, there are still two years old, very childish

Interviewer: What other things do you think impressed you about Rebecca?

Student D: What was the thing about the teacher, we, who knew the time of the roll call, when the roll call was, when the roll call was the first time we started the school, she was very good about the roll call, we had to get up quickly and stand up to. It was like a game. If you didn't react, you had to be punished. The teacher had a lot of other time in class and it was fun and then some people said something.

Student E: This roll call is also all very interesting, like this, then the teacher then reads dragging the sound, the teacher will not directly say dragging what sound, the teacher will say how to return to the teacher later also positive ah class, good hallo to answer bad, he said so I later I also do not respond, too hard to bear. Some people drag the sound in class, Rebecca will use this way to educate the children: such as ~~~~ I ~ on ~ class ~ also ~ with ~ drag ~ sound ~ the ~ way ~~, this ~ kind ~ good ~ not ~ good, then we all say with one voice not good

Student A: Hmm. The main thing is that all the teachers in the past were very mean and strict, but this teacher is not at all. She's rarely being mean, except when she's angry.

Student D: She was mean because someone broke the rules, but Rebecca would not be mean for no reason. She cried when she said that.

Student E: to we asked him Rebecca how old you are, she said I am 100 years old, I asked her yesterday she said 91 years old, anyway, then we asked her how many years you have done in this school, she said 100 years on VIP. She likes to touch our hair, touch the time to change edit I can, then she used to touch like Rebecca if this was my head and then she would look like this. Then there was a sports day rehearsal before, and that was the time when I was not feeling well and cried, and then Rebecca saw him and said, "Does your stomach still hurt?" That's what she would do, and when people were cold he would take out her jacket and cover him up.

Interviewer: What do you think are Rebecca's strengths in total?

Student A: She is funny and humorous in class

Student B: She is not very rigid and rigid in what he says. He is very flexible

Student C: She is young and has a childish spirit, not in class, but at the end of class he will play with the students and have fun together.

Student D: I just feel that her class is more interesting

Student E: She also interacts with the students after class, playing with toys and popular games with the students.

Appendix Y. Example of the coding student focus group interview of study 2

The bold content in the brackets were the coding conclusions from the material.

Specific I had my own part lost before, then I went I said to Li teacher, girls 1m 73 buddies lost, I said with the examination room, then came back to find, then Li teacher gave me a book, then hugged me and said to you next time again is **(care students, students things lost themselves to students)**

The front is we violated the discipline, is a girl on what speech, then then then the red teacher complaint over, then again Li teacher spoke a whole lot of messed up words to make themselves cry, convenient, because we have to exceed 500 months, every day to exceed to sing a, let him to be with him to have him up, a month you know I cried, then the red mother came back I comforted him, I have to go to tell the teacher, then I will talk to Li teacher exchange past, I thought Li teacher will scold me, then did not think Li teacher said it's okay, comfort me. **(Criticising students in a way that students take the blame for their own mistakes and comforting them)**

really have money, not so high, and then finally engaged in if you say here, said to help us apply to the red teacher to compensate so much or not less so much money, and then help you apply with Mr. Li to. Comprehensive, just write a letter of guarantee, then he also comforted us, you guys later in the office? No, not so much as just write a word, you said to keep about his grandfather said line, can't can't can't. **(care about students, help students to apply to other teachers to reduce the penalty copy and penalty money, later students will no longer make mistakes)**

OK, what else do you think is worth talking about in Mr Li or in his class? Some of the jokes Mr. Li would tell in class to inspire our descendants. **(Classes are fun, jokes are told)**

I know he talked to us before I found out that Mr. Lee we sometimes he said one by one that you say we have sometimes have last time boys they car up and then let them dance to a music, dance to what music, yes just he he a little music, as long as it is to say two ways don't jump, is still where to jump, where you are. The music is a very unique but interesting way of teaching punishment. **(A rather unique but interesting way to teach punishment.)**

Got two tickets of the ticket, bored of jumping, jumped on touching others, is not to touch others others can, and then take that thing as if they do not know like what do not know, also thought they were fighting, and then together common usually use the kind of have audio, generally are writing essays when we start to give us to listen to an audio, and then stimulate our imagination, what have what sometimes not what eagle cry What rains, how to buy, yes every time bankruptcy let us almost, no every day every time anyway to stimulate twice a week, yes. (When writing essays sometimes the students are given audio to stimulate their imagination and then write the essay. **(Unique method of teaching)**)

Are 100 people writing essays when they're gone for three days? No it's essay writing because just three once a week, for a week this era time in a bit what makes people change no listen to music say what to do listen to music what to do. We close our eyes, then imagine the picture, then tell the story, then if we were in it, then make up a story here. Teacher speaks to where he thinks we may not understand enough, then he let me to find students to come a little bit, he acted singing there so far, acting what beef, really acting what after jumping also acting tiger. Yes, just someone to run what hunter's hunt, tiger has a of slowly said quite well, said quite clearly. Happy birthday, we like you. **(Unique teaching method, let the students play some situational comedy to increase the students' imagination and help them write their essays.)**