In Search of a Third Space: Teacher Development in China

Amy B. M. Tsui

The University of Hong Kong

Hong Kong

Jocelyn Wong

Hong Kong Institute of Education

Hong Kong

The system and structure of teacher education in Mainland China (hereafter referred to as China) were modeled on those of the former Soviet Union which were based on the model of collective communes with an emphasis on collective efforts in enhancing school-based teachers' professional development (Yang & Wu, 1999). The Soviet model was adopted in the early 1950s to deal with a large number of untrained teachers recruited to teach in schools because of a serious shortage of teachers (Xie, 2001). Teaching research groups were set up in schools with two major tasks: to learn how to conduct a good lesson and to learn the educational theory expounded by the then-Deputy Minister of Education of the then- Soviet Union, Ivan Andreyevich Kairov. Every teacher was required to teach a good lesson and to demonstrate an understanding of the theoretical underpinnings. This has become patterned practice of the teaching profession in China. The powerful learning that took place when teachers' learning was situated in their contexts of work has led to the continuation of this model since then. Consequently, schools have become the prime site of professional learning for teachers (Lin & Cheng, 2004; Ma, 1992; Paine & Ma, 1993). As Ma (1992) has observed, obtaining a professional qualification from teacher education institutions (referred to as "normal colleges / universities" in China) is only the beginning of teachers' professional development. Much of the learning about the work of a teacher takes place in the workplace. Hence, participating in learning activities has become an integral part of teachers' daily practice. This distinguishes teachers' professional development (TPD) activities in China

from those found in most other parts of world.

Over the years, a number of practices have emerged and many of them have become standard practice, for example, “lesson research” (*keyan*) [課研] which includes collective lesson preparation, lesson observation and post-observation conferencing, Open Lessons (*gongkaike*) [公開課] which are demonstration lessons, and one-on-one “the old guiding the young” mentoring practice (*lao dai qing*) [老帶青]. Since the implementation of the economic Open Door Policy in the mid-seventies, Chinese education has opened to Western influence. However, instead of simply grafting western practices on Chinese soil, some educational leaders in China have emphasized that educational practices “borrowed” from the West must be firmly rooted in Chinese educational traditions and philosophies as well as the situated experience of teachers. Gu Ling Yuan, a renowned professor in mathematics education and teacher education has used the metaphor “middle ground” (*zhongjian didai*) [中間地帶] to refer to the space in which the East meets the West (see Gu, Nie & Yi, 2002). He has suggested that it is a space in which rich mutual learning takes place and a space that needs to be created.

Adopting the concept of the “third space” (Bhabha, 1994, p. 53; see also Gutiérrez, Baquedano-López & Tejeda, 1999), referred to by Activity Theorists as the “boundary zone” that can be found when two activity systems interact (Konkola, 2001, cited in Tuomi-Gröhn et al., 2003), this chapter analyses data collected from a study on TPD activities conducted by the

Shanghai Academy of Educational Sciences in collaboration with the district Teaching Research Office (TRO) in Shanghai and a number of schools. The TRO in Shanghai was chosen as a case study because of its outstanding work with teachers which has made an impact on a number of schools in Shanghai. The successful experience in these schools was widely reported and acclaimed in Mainland China and led to the publication of two books and journal articles by a number of teachers and TROers involved (see for example Gu, 2003 and Gu et al., 2002). The chapter explores how, in the third space, Chinese conceptions of teaching and learning have guided educational leaders and practitioners as they encountered ideas and practices in the West and how new forms of TPD have been created as they reconceptualized western practices for the enhancement of teaching and learning in Chinese classrooms.

The data used in this chapter consist of four narrative interviews, totaling 7.5 hours, with Gu Ling Yuan, Deputy Director of the Shanghai Academy of Educational Sciences and the winner of numerous Outstanding Teacher Awards. Gu and his philosophy of teaching were selected for study because he is one of the most influential figures in teacher education and mathematics education in China in the last few decades. His proposed “action education”, *xingdong jiaoyu* [行動教育], (enactment based learning) discussed in this chapter is promulgated by the Ministry of Education and widely adopted in China. In recognition of his contribution to education, he was awarded the National Award in Education in China in 2006. This is a prestigious award given to the most outstanding professional in each of eight

professions. The interviews with Gu focused on the following aspects: 1) the prevalent teachers' professional development activities and models in China and their underlying philosophies; 2) aspects of these activities and models that have undergone changes and why; and 3) what and how research in the West or other parts of world has been drawn on by him and his team. On the basis of the interviews with Gu, interviews with teachers working under his guidance were also conducted. Gu's explication of the TPD activities and the rationale for and implementation of *xingdong jiaoyu* was triangulated the teachers' understanding and their classroom implementation. Three group interviews of 5 hours all together were conducted with seven teachers working in five different schools in the outskirt districts of Shanghai under the guidance of Gu (the aspects covered in the interview questions are presented in a subsequent section, see p. 28).

In the ensuing discussion, we briefly introduce the concept of the "third space" in which the TPD work conducted led by Gu was framed and outline teachers' professional learning in China, focusing on the organization of TDP activities in China and the philosophies of education that underpin these activities. This is followed by a discussion of a recent development in a teacher learning model …., referred to as *xingdong jiaoyu* [行動教育] (literally translatable as "action education", semantically translated as "enactment-based education"). *Xingdong jiaoyu* was appropriated from case-based methodology in teacher education in the United States but given local meaning and vitality as it was enacted amongst Chinese teachers and

theorized in the framework of Chinese education philosophies.

The Third Space

The notion of “third space” was proposed by Homi Bhabha in his work in culture and identity. According to him, third spaces are “discursive sites or conditions that ensure that the meaning and symbols of culture have no primordial unity or fixity; that even the same signs can be appropriated, translated, and rehistoricized anew” (Bhabha, 1994, p. 37). This notion has been adopted in diverse contexts and assigned different meanings. Nonetheless, they have in common the understanding that it involves an encounter of two or more perspectives, often entailing conflicts and debates, which opens up a third space where new ways of thinking, being and acting are conceived. This conception of the third space resonates with social theories of learning which have pointed out that the interaction between communities of practice can be a source of deep learning because it compels participants to take a fresh look at their long-standing practices and assumptions. Wenger, McDermott, & Snyder (2002) point out, “While the core of a practice is a locus of expertise, radically new insights and developments often arise at the boundaries between communities” (p. 153). Similarly, Activity Theorists observe that when two activity systems interact, the shared space has the richest potential for generating new activities which can lead to a transformation of the activity system itself (see Konkola, 2001, cited in Tuomi-Gröhn et al., 2003; see also Y.

Engeström, R. Engeström, & Kärkkäinen, 1995). The term “boundary zone” has been proposed to describe a place where elements from both activity systems are present (Konkola, 2001, cited in Tuomi-Gröhn et al., 2003). As such, a boundary zone is characterized by alternative or competing discourses and positionings which afford opportunities for the transformation of conflicts and tensions into rich zones of learning (Engestrom, 1999, 2001).

It must be pointed out, however, that the opening up of a rich zone of learning in a third space when communities or activity systems interact is not something that can be assumed. This is because the interaction could lead to the domination of one perspective or activity system over another. Such domination could be externally or internally driven, or both. This space is something that needs to be searched for.

Teachers’ Professional Learning in China

Enabling Structures: Jiaoyanshi, Jiaoyanzu and Jiaoyanyuan

In China, TPD activities are organized systematically through the support of Teaching and Research Groups (TRGs, *jiaoyanzu*) [教研組], in schools under which there are collective Lesson Preparation Groups (LPGs, *beikezu*) [備課組] which is the smallest unit. Both TRGs and LPGs are subject-based and they are in turn supported by Teaching Research Officers (TROers, *jiaoyanyuan*) [教研員] in subject areas from the Teaching Research

Offices (TROs, *jiaoyanshi*) [教研室]. TROs are established under government education departments at district/county and provincial/municipal levels. The key functions of these bodies are to help teachers to understand the standardized curriculum framework and materials, and to provide pedagogical support to school teachers through school TRGs in their respective districts or counties (Guo, 2005). TROs liaise with other educational institutions to organize in-service TPD activities for subject teachers. In recent years, TROs have set up a learning network to enable TRGs from a number of schools to collaborate on improvement of teaching and learning. Running parallel to the TROs are the Academies of Educational Sciences, also coming under the Education Departments of the various levels. These Academies focus on teaching and educational research whereas the TROs focus on classroom teaching. As can be seen from the work of Gu reported in this chapter, there are synergies between these bodies. Figure 1 shows the hierarchical structure of the teaching research bodies.

[Insert Figure 1 about here]

TRGs organize activities relating to aspects of the subject curriculum, that is, content, pedagogy and assessment, including collective lesson preparation, lesson observations and post-observation conferencing, curriculum planning and Open Lessons. These groups are also responsible for mentoring novice teachers. In each TRG, there are “backbone” (*gugan*) [骨幹] teachers whose professional authority is not based on their official positions in

their schools but on their teaching expertise; they are models of excellent teaching.

Activities organized by TRGs provide a platform for teachers to discuss and reflect on their teaching and to learn from good practices in their subject area. In view of the fact that teachers may not have an adequate understanding of the theoretical motivation behind their classroom instructions, TR Officers are attached to schools and they participate regularly in TRG learning activities. These Officers are recruited from backbone teachers in schools who have achieved outstanding performance in Open Lessons or teaching competitions, have engaged in conducting research on teaching and have published research papers. In recent years, the number of TR Officers who have obtained doctoral degrees has increased steadily. They play a key role in providing leadership through participating regularly in TPD activities in schools, especially in lesson preparation, lesson observation and post-lesson conferencing. They also offer Open Lessons to demonstrate effective pedagogical practices. In other words, their work is deeply rooted in classroom practices. Apart from that, they also conduct research on issues that are directly related to teachers' needs, for example action research on specific learner difficulties (Dai, 2005). As such, they are not "outside experts" but rather members of the communities of practice in their respective schools. At the same time, they also bring new ideas and practices to these communities. They are, in Wenger's terms, boundary brokers (Wenger, 1998). It is significant that although the TRG is not an administrative structure and does

not have decision-making power in relation to school management and policy, it plays a critical role in transforming pedagogical practices in schools.

The Apprenticeship Model

In China, the model adopted for TPD has been referred to as "the old guiding the young" (*lao dai qing*) [老帶青]. "Old" and "young" refers to experience rather than age, though the two are not unrelated. Each new teacher is assigned a mentor who is a backbone teacher in the school within the same lesson preparation group in order to give daily support to him or her in terms of pedagogical skills and subject matter knowledge. In addition, the whole TRG to which he or she is assigned provides support through a series of regular learning activities. The performance of a subject teacher is often attributed to the support given to him/her by his/her TRG (Hu, 2005; Guo, 1999, 2005; Ma, 1992).

The word "*dai*" [帶] (guide) connotes an apprenticeship model where novice teachers receive close guidance by their mentors on a one-on-one basis on all aspects of their work as a teacher. They observe their mentors in action in the classroom and are observed by their mentors from whom they receive critical feedback and specific suggestions for improvement. Mentoring practice in China is rooted in subject matter knowledge and pedagogical content knowledge. Compared to their counterparts in the U.S. and the U.K., mentors in China are more concerned about scaffolding novice teachers'

development of a deep understanding of subject matter knowledge and instructional strategies which would help students understand the main ideas, concepts and the linkages between the key concepts in a particular subject domain (Wang, 2001). They also receive more specific, critical and subject-focused feedback from their mentors than their US counterparts (Wang, Strong, & Odell, 2004). These scaffolding mechanisms help novice teachers to resolve the problems of not having sufficient knowledge about "how" to teach, "what" to teach and "why" (Ma, 1992, p. 13). Typically, novice teachers are given a lighter teaching load and limited responsibilities to ensure that there is room for them to learn the ropes.

This model of TPD resonates with the apprenticeship model as expounded by Lave and Wenger (1991) which provides for "legitimate peripheral participation". As Lave and Wenger point out, it is a powerful form of learning because the participation in practice by novices whose performance necessarily falls short of the competence expected of old-timers is legitimated through the official reduction of teaching load, the membership of TRGs and the authority of the mentor assigned to them. The limited responsibilities that novice teachers assume allow time for them to reflect on and make sense of practice through interacting with members of the community.

The Virtuoso Model

As mentioned in the preceding discussion, teachers' professional

learning in China gives central importance to subject matter knowledge and pedagogical content knowledge (Shulman, 1986). Having in-depth disciplinary knowledge is perceived as the foundation of good teaching: Teachers are expected to possess a deep understanding of the subjects that they teach and to perform as experts in the classroom. A commonly cited saying amongst teachers in China is “to give your students a glass of water, you need to have a pail of water”.

The model of teaching that is advocated in China is described by Gu as “*you ceng ci tui jin*” [有層次推進] meaning “moving forward with well sequenced guidance”. A great deal of importance is attached to the careful planning of the scaffolding to be provided to students on the basis of a deep understanding of the subject matter. Hence, in collective lesson preparation, the first and foremost task for teachers is to identify three things in a topic: the knowledge point (*zhishi dian*) [知識點], the key point (*zhong dian*) [重點] and the difficult point (*nan dian*) [難點]. This means teachers need to explicitly spell out the aspects of the topic or concepts students need to learn, the key aspects or concepts in that topic and the aspects or concepts that students find most difficult. After this, careful planning of the lesson is done with every step choreographed under the guidance of mentors, TROers and master teachers. The lesson will be taught numerous times, critiqued, and modified until it becomes almost like a standard piece in a performance which will be practiced and rehearsed again and again until the teaching becomes automatic (see also

Paine, 1990). Some topics, such as the teaching of the Pythagoras Theorem (referred to as *gougu dinglu*, [勾股定律] in China) in mathematics, have undergone as long as twenty years' of choreographing.

To help teachers to attain an expert level of performance, teaching demonstrations and competitions are held at school, district, provincial and national levels. Teaching demonstrations are referred to as Open Lessons, meaning that the lessons are open to a wider audience than teachers of the same subject or in their own schools. In general, each teacher is required to conduct at least one school level Open Lesson a year. Each Open Lesson is organized by the individual TRG in a school, guided by the TRO(s) attached to it. Open Lessons are organized around specific topics or issues in teaching. In nearly all schools, there are one or more special classrooms for conducting these lessons. They are bigger than the size of a normal classroom with rows of seats at the back accommodating up to 100 observers. After each Open Lesson, post-observation discussion will be conducted. In recent years, a new element has been added to the Open Lesson Competition procedures: Teacher are required to talk about the lesson first (referred to as *shuoke* [說課]) before they start the lesson. The aim of this element was initially technical in nature: To help the audience better understand the context of the lesson and the rationale behind the strategies adopted in the Open Lesson. However, the interviews with teachers revealed that in course of preparing for *shuoke*, they clarified their thinking about their pedagogical actions. In other words, it

helped them to make explicit their tacit knowledge of teaching.

This model of teacher learning, which is practiced in all schools, has proved to be very effective. Ma's (1999) comparative study of Mathematics teaching in schools in China and the U.S. shows that the quality of learning in the former is considerably higher because the Chinese teachers have a profound understanding of Mathematics knowledge. This is achieved through intensive study of the teaching materials, including the curriculum framework, textbooks and teachers' manuals, in order to understand the "what" and the "how" of teaching. It is also achieved through the careful choreographing of lessons which enhances the teachers' own understanding of the subject matter as well as how best to help students to engage in deep learning. The sharing amongst teachers in collective lesson preparation, lesson observations and Open Lessons provide a reflective and inspiring context for both novice and experienced teachers' learning (see also Wang & Paine, 2003).

Chinese Philosophies of Education in Models of Teachers' Professional Development

In the preceding discussion, we have outlined the characteristics of the models of teachers' professional learning in China, namely the apprenticeship model and the virtuoso model. In this section, we will report on the Chinese philosophies of teaching and learning that underlie these models and have shaped the conceptions of teacher learning, as revealed in our interviews with

Gu and to a less extent with the teachers.

Dialectics of Learning and Doing

Learning (*xue*) is given centre stage in Confucian thinking. Love of learning distinguishes the superior man (*junzi*) [君子] from the small man (*xiaoren*) [小人]. The word “learn” in Chinese consists of two characters 學 (*xue*) “learn” and 習 (*xi*) “trying it out”. In our interviews with Gu, he presented the following diagram (Figure 2) which shows the classical written form of the two characters (see also Gu, 2003, p. 276).

[Insert Figure 2 about here]

The first character is made up of two constituent components. The upper half component [] signifies two hands on each side holding two crosses in the middle. These two crosses stand for documentation or straws used for calculation. They signify knowledge which has been documented. Taken together, this constituent component means that knowledge will be passed down from generation to generation. The lower constituent component [] symbolises a roof top supported by two pillars, which stands for a building where knowledge is being passed on. The other character [習] (*xi*) means to try things out, to experience. The meaning of this character, as explained in the “Classical Poetics” [詩經] (*Shijing*), consists of two constituent components. The lower constituent [] signifies a bird’s nest. The upper constituent [] symbolises a pair of wings of a new born eagle.

The two components taken together signify a baby eagle trying to fly away from the nest *on its own* (cf. *Zhu Xi*'s reading in Gardner, 2003, p. 31). Hence, there are two parts to learning. One is to receive knowledge that is passed down, and the other is to be able to experience it and to put it into action (see also Gu, 2003, p. 276). The meaning of *xuexi* is elaborated in *The Analects of Confucius* (*Lunyu*) [論語] where Confucius said, "Is it not a pleasure, having learned something, to try it out at due intervals?"[1] (Confucius, translated by Lau, 1979, p. 3).

From the above exposition by Gu, we can see that there are two parts to learning. One part is to acquire declarative or "formal knowledge" (Bereiter & Scardamalia, 1993). The other part is to enact and to experience "formal knowledge". In other words, both knowing-that and knowing-how (Ryle, 1949) are given equal emphasis. The relationship between knowing and doing is perceived as dialectical. In our interviews with Gu, he pointed out that action that is not guided by theory is "blind" and theory that is not enacted is "empty". This can be seen from the following quotation from the Chinese philosopher *Zhu Xi* (Chu Hsi) [朱熹] who pointed out that doing transforms knowing:

> When you know something but don't act on it, your knowledge of it is still superficial. After you've personally experienced it, your knowledge of it will be much clearer and its significance will be different from what it used to be. (Chu Hsi, [*Zhu Xi*], Chapter 9,

9.1a:6/148:5; translated by Gardner, 1990, p. 116)[2]

Apart from *Zhu Xi*, Gu also referred to the debate amongst Chinese philosophers with regard to whether knowing or doing comes first. He cited the work of another Chinese philosopher, *Wang Yang Ming* [王陽明], who pointed out that "knowing and doing are one" (*zhixing heyi*) [知行合一] and further commented that to say that one comes after the other is a linear view of learning.

Reflexivity of Teaching and Learning and Centrality of Enactment

In Chinese, the word teaching *jiaoxue* [教學] is made up of two characters, "teach" and "learn". In other words, learning is an integral part of teaching. Gu cited the following from *Xueji* [學記] which is considered one of the earliest works on education in China:

> Learn and you know your own deficiencies
>
> Teach and you know the difficulties (in teaching)
>
> You know your own deficiencies and you are able to improve yourself
>
> You know the difficulties (in teaching) and you are able to strengthen yourself
>
> Therefore it is said that teaching and learning are mutually strengthening. (*Xueji*, in Gao, 2005, p. 1)[3]

Embedded in the above saying are two major conceptions. The first one is the importance of participating in the act of learning and in the act of

teaching. The second one is the reflexive processes of learning and teaching: Learning makes one more knowledgeable but also makes one realize one's own ignorance; and an awareness of what one does not know is the impetus for learning more. Hence, knowing and not-knowing are mutually constitutive. Similarly, it is only through teaching that one understands the difficulties in teaching; and an awareness of what is difficult to teach prompts one to be reflective about one's teaching. Knowing how to teach and knowing what is difficult to teach are also mutually constitutive. Teaching and learning therefore go hand-in-hand. Again we see the emphasis of enactment in teaching and learning: it is only in the process of participating in teaching and learning that one becomes a better teacher and a better learner.

In all schools in China, lesson observation is practiced within the same lesson preparation group or TRG. It consists of three components: observing the lesson, post-observation conference and subsequent enactment of ideas for improvement on teaching discussed in the conference. Gu explained that the term "observation" (*guan mo*) [觀摩] was expounded by *Zhu Xi* as "Observe each other and improve (on one's weakness)". Therefore, central to lesson observation is the act of improving on one's teaching. This resonates with Schön's (1983) concept of reflection-in-action, a process in which professionals are engaged when they encounter unique and problematic situations when they cannot depend on established theory and technique. Under such circumstances, according to Schön, professionals may reframe their understanding of the problem and experiment with various options to

achieve the desired outcome. Their thinking is not separate from doing and experimentation, a kind of action, is built into the inquiry. Schön, however, considers reflection-in-action “an extraordinary process”, although it is not rare and can even be the core practice of some practitioners (1983, p. 69).

Expert Guidance and Peer Learning

Peer learning is much celebrated in the research literature in the West as a powerful way to help teachers to learn about teaching. For example, Korthagen, Loughran and Russell (2006) listed peer learning as one of the fundamental principles for student teacher learning (see also Putnam & Borko, 1997; McIntyre & Hagger, 1992). In China, student teacher or novice teacher learning typically involve TROers or backbone teachers who provide guidance. Gu pointed out that peer learning is valuable in terms of stimulating discussion, promoting collaboration and enhancing solidarity amongst teachers. However, from his experience in Shanghai, he found that peer learning tended to succeed in places where there was expert guidance realized by participation from backbone teachers, expert teachers, or external specialists. In Gu’s view, without guidance from specialists or expert teachers, teacher learning would be limited. A common saying that he cited to capture the situation was “cooking radish with radish” [*luobo shao luobo*] [蘿蔔燒蘿蔔], meaning there is little added value in the work done. He cited a survey that he conducted on 311 teachers in Qingpu [青浦] District in Shanghai in which teachers were

asked to indicate what they considered to be the most helpful forms of learning in curriculum reform and TPD activities. The results showed that over 70% of the respondents rated the following activities as most helpful: (a) classroom teaching guided by experts and experienced teachers and (b) guidance from experienced colleagues on teaching materials and teaching methods. Only slightly over 20% of the teachers rated discussions of classroom practices amongst peers as most helpful. They were also asked to indicate the forms of lesson observation and lesson critique that were most helpful. Nearly 50% of the teachers indicated as most helpful preparing lessons together with specialists and master teachers, followed by lesson observation and post-lesson conferencing on how to improve on the lesson observed. Almost 25% of the teachers chose observing lessons taught by master teachers and participating in post-observation conferencing and relating to their own classroom realities. Only 0.7% of the respondents considered lesson observation and post-observation conferences amongst peers as most helpful (see also Gu, 2003, pp. 428-429). The results highlighted two important elements in teacher learning. First, *in Chinese culture*, teachers learn best when they participate in discussions of actual classroom teaching and are able to relate the discussion to their own experiences. Second, they learn best when the discussion is scaffolded by more capable members of the community of practice. He proposed that "peer learning also requires expert guidance" as one of the guiding principles for teacher learning. He cited the following excerpt from *Xueji* as the principles of teaching that have guided him and

many master teachers in China.

> Teach without dragging (your students) by the nose,
>
> Demand high level of performance (from your students) without discouragement
>
> Open the door without taking (your students) to the destination. (*Xueji*, translated by Gao, 2005, p. 2)[4]

The above principles emphasize the importance attached to providing guidance and direction, setting high standards, giving encouragement while at the same time allowing room for individual effort.

Learning from the West and "The Theory of the Mean" (zhongyong zhi dao) [中庸之道]

The apprenticeship model and the virtuoso model of teacher learning have been criticized by scholars in teacher education in the West as encouraging reproduction of teaching styles, hence contributing to a conservative orientation in teacher development. For example, Paine (1992, 1995) maintains that the virtuoso model suggests that good teaching is to reproduce appropriate behaviors, styles and knowledge in the classroom. The apprenticeship model is considered to reinforce the hierarchical structure in schools, the importance attached to seniority, and the neglect of individual differences. Similarly, the emphasis on expert guidance has been criticized for allowing little room for creative pedagogy (Fraser-Abder & Chen, 2002; Guo, 2005).

We interviewed Gu about his views on the characteristics of Chinese pedagogy, including those in teacher education, how they were different from the pedagogies in the West and what they had learnt from the West. He pointed out that China must learn from the West without uncritical adoption of ideas and practices. He related an observation made by an American visiting scholar regarding the differences between the way teaching and learning was managed in American and Chinese classrooms as follows:

> She (referring to the American scholar) used the analogy of the teacher as a swimming coach. In her view, the coach in the U.S. will take the kids to the sea to teach swimming. He will ask the kids to jump into the water and try swimming on their own. Before they do that, he might remind them that they need to struggle a bit to stay afloat. Out of 30 kids who jump into the water, 10 will survive but 20 will drown. According to her, those who survive are great kids because in the course of struggling on their own to stay afloat, they develop creativity and endurance. But this is achieved at the price of 20 kids failing miserably. In China, the coach will do it in stages with close guidance. The coach will teach the kids the strokes first and the kids will imitate those strokes in the classroom which is very safe because there is no water. After that, he will take them to the shallow end of the swimming pool to try out the strokes. For those who are not able to do it, he will use his hands to support their tummies so that they can stay afloat and practice moving their arms and legs. The third step will be similar to

> what the U.S. coach will do. He will take them to the sea and all 30 kids will manage to stay afloat. According to her, this is also achieved at a price. Out of the 30 kids, 10 could have done that by themselves through their own efforts. By giving them very close guidance, the kids' potential for creativity is stifled.

Gu reflected on the analogy and observed that what they had learnt from the West was that if students were able to do it on their own, they should be given the opportunity to do so. He was keen to redress the balance between the prevailing emphasis in China on the passing down received knowledge and relative neglect on providing room for students to explore the answer for themselves in "learning through doing" (*zuozhong xue)* [做中學]. He noted however that they must not lose sight of the importance of timely intervention from the teacher in student-oriented pedagogy. In his view, appropriate scaffolding from the teacher was crucial to effective learning (see also *Xueji*, in Gao, 2005, p. 2). He concluded that China must learn from the West, but they must be judicious in adapting new ideas to the realities of the local context. He cited the "Theory of the Mean" (*zhongyong zhi dao*) [中庸之道] from the Chinese philosopher, *Zhuxi*, which he expounded as taking the two extremes of anything and drawing on their strengths and avoiding their weaknesses in practice. He said, "In theorizing, you can afford to take an extreme position but in practice, you must not forget the Theory of the Mean." He pointed out, "The Theory of the Mean is a key to success in practice." This

point was also emphasized by a number of teachers interviewed.

From Case Methods to Enactment-based Teacher Learning

In this section, we focus specifically on a recently developed model of teacher learning, coined "*xingdong jiaoyu*" [行動教育] (enactment-based learning)[5] by Gu, to help teachers address the problem outlined in the preceding section. This model emerged as a result of the interaction between teacher educators in the United States and Gu's team.

Bridging the Theory-Praxis Gap

In light of the criticisms of Chinese approaches to student learning outlined in the previous section, Gu was keen to help teachers adopt a student-centred pedagogy which provides ample opportunities for students to explore answers for themselves without relinquishing the important role of the teacher in systematically scaffolding the learning process. Similarly, he felt that the apprenticeship model should allow room for teachers to explore for themselves ways to address pedagogical issues that emerged in their own classrooms. The gap between theory and practice, in his view, was a still major problem which had not been adequately addressed by existing TPD activities in China. He looked for answers in teacher education practices in other parts of the world, and was excited by case methods in teacher education advocated by L. Shulman (1992). He was attracted by the conception of cases as

embodiments (*zaiti*) [載體] of theories to which teachers could relate. He believed that teachers should engage with cases with a view to improving their own classroom practices.

In the following section, we shall provide briefly some background information on the use of case methods in teacher education in the U.S.

Case Methods in Teacher Education

The use of "cases" in teaching for teacher education purposes, borrowed from the use of cases in professional schools such as law, medicine and business, was proposed in the mid eighties (see Carnegie Task Force on Teaching as a Profession, 1986). It has been pointed out that cases of teaching are powerful mediating tools for teacher learning because they capture the complexities of teaching which cannot be articulated as prescriptive principles and rules. L. Shulman (1986) observes that that it is essential for teacher education to confront "principles with cases, of general rules with concrete documented events – a dialectic of the general with the particular in which the limits of the former and the boundaries of the latter are explored" (p. 13). Case-based teaching, J. Shulman (1992) elaborates, "provides teachers with opportunities to analyze situations and make judgements in the messy world of practice, where principles often appear to conflict with one another and no simple solution is possible" (p. xiv). She advocates the use of cases as catalysts for stimulating teachers' reflections as well as pedagogical conversations in order to enhance the quality of teaching. Because cases are

congruent with the forms of practical knowledge that underlie practice and they have more credibility and relevance for professional practice, they are powerful tools for helping teachers to understand the complexity of teachers' practical knowledge, for inducting novices to "think like a teacher" (L. Shulman, 1992, p. 1), and for bridging the gap between theory and practice. L. Shulman further points out that case methods is "a strategy for overcoming many of the most serious deficiencies in the education of teachers. Because they are contextual, local, and situated – as are all narratives – cases integrate what otherwise remains separated. Content and process, thought and feeling, teaching and learning are not addressed theoretically as distinct constructs. They occur simultaneously as they do in real life, posing problems, issues, and challenges for new teachers that their knowledge and experiences can be used to discern" (ibid., p. 28).

Notwithstanding the clear advantages of case methods in teacher education, L. Shulman (1992) has cautioned that because of the situated nature of cases and the particularities of the narratives of cases, learners may find it difficult to see the generalizations and principles that underlie these cases. Moreover, they may also tend to over-generalize a single powerful case to other situations. In view of this, he has called for a judicious use of a combination of expository teaching and case-based teaching. Similarly, Grossman (1992) has drawn our attention to the fact that the quality of the discussion of cases is critical to their full exploitation for teacher learning. Restrictive discussions, in her view, could lead to over-simplification. She has

argued thus: “For teachers to see relationships between the events of a case and the subsequent classroom experiences will require a broad understanding of the initial case, as the specific details of the two are likely to differ significantly” (p. 237). To address the problem, Grossman has proposed that the curriculum should allow for multiple readings of a single case over time and subsequent readings should enable students to develop multiple perspectives on a single case and a more elaborate understanding of the complexities involved.

To gain a better understanding of case-methods in teacher education, Gu led a delegation to the U.S. and, amongst other activities, observed case-based teaching in action at the Institute for Case Development at the Far West Laboratory for Educational Research and Development directed by Judith Shulman. He was very impressed by the richness of the cases presented and the heated discussion amongst teachers. However, his reservations about the case-based approach were different from those expressed by L. Shulman and Grossman. While he concurred strongly with them that the quality of the discussion of cases was highly important, he nevertheless felt that the crux of bridging the theory-praxis gap lied in teachers relating these cases to their own classrooms through the *enactment* of the ideas, strategies and principles embedded in these cases. He pointed out that discussions of cases must be followed up by classroom enactment which in turn must also be followed up by reflection and discussion in a recursive manner.

Re-interpreting Case Methods

During his visit to the Institute for Case Development, he asked for a definition of a case and he was given two succinct and brief statements: "Cases are stories" and "Cases must have problems (that need to be addressed)" (L. Shulman, 1992)[6]. Gu puzzled long and hard over these two statements. He related it to Chinese philosophy of learning. He said,

> The statements captured two essential elements of a story. What is a story? A story has a plot which is "within reason but out of one's expectation."[7] In other words, if it is something that teachers are expected to do everyday, then it is not a story. If something unexpected happens and there are alternative ways of dealing with it, then we may have a story here. The other element is that there are difficulties. In *Xueji*, it says, "Learn and you know your own deficiencies; teach and you know the difficulties (in teaching)." When teachers encounter difficulties (and they address these difficulties), they can develop professionally.

Based on this re-interpretation, he proposed an alternative model which uses lesson cases as the mediating tool for the enactment of theoretically motivated teaching. He coined the term *xingdong jiaoyu* ("action education") [行動教育] as the abbreviated reference to the model. Incorporating the idea of case methods and Chinese philosophies of teaching and learning, Gu outlined three major elements of this model. First, it is case-based or lesson-based; second, it is a collaborative effort between front-line teachers,

master teachers and TR Officers; and third, it integrates discussions of a lesson-based case with subsequent enactment of theories of teaching and learning embedded in these cases and reflections on the enactment. The entire process involves what has been referred to as “three phases of focusing” and “two phases of reflection” (see Figure 3).

[Insert Figure 3 about here]

At the first stage, teachers focus on their existing practice and conceptions of teaching and learning. This is followed by a process of collaborative reflection, guided by master teachers and TR Officers, in which teachers evaluate existing practice and try to discern the gap between their existing practices and new practices that are informed by theory and reported in the research literature. In particular, attention is paid to those which are mentioned in the literature but are missing in teachers’ repertoire and those which are peculiar to the teachers’ existing practices but not mentioned in the research literature. According to Gu, this process allows teachers to reconceptualise their practice in a theoretically motivated manner without losing their own personal style of teaching. On the basis of the reflections, at the second stage, teachers focus on re-designing and re-enacting the lesson which draws on new theories and conceptions. They collaboratively reflect once again on the classroom enactment and try to discern the gap between the intended lesson and the implemented lesson. Modifications of their pedagogical actions are made to bridge the gap discerned. At the third stage, teachers focus on student learning outcome as a result of the modified

strategies and try to discern the gap between the intended and the actual learning outcomes. The second and third stages are recursive until the team is satisfied with the learning outcomes achieved (cf. Schön's model of reflection-in-action). This model takes teacher beyond using cases for understanding and discussing theory. It emphasizes connecting theory and praxis and bringing about conceptual change in teachers *through* the enactment of lessons informed by theory.

Gu and his team spent a whole year trying out "case-based learning" in six secondary and primary schools, focusing on four subjects: Secondary mathematics and physics, primary mathematics and general science. They observed teachers' existing classroom practices and interviewed teachers on their thinking behind the lesson designs and classroom implementation. This was followed by the second stage which was the re-design stage. Data were collected on teachers' discussions of how to improve on current practices and how the re-designed lessons could address the problems. At the last stage, classroom implementations of the new lesson design were observed and teachers and researchers were interviewed on the students' learning outcome achieved. The second and third stages, as mentioned before, were recursive. If the new design did not lead to positive student learning outcomes, it would be modified. The changes in teacher cognition and classroom practice and the possible relationships between them were studied.

Making Sense of Enactment-based Learning: Perspectives from Teachers

As mentioned above, we conducted in-depth group interviews with seven teachers, with teaching experiences ranging from two years to nearly twenty years. Some of them are master teachers who have won teaching awards at national level and some at municipal or district levels. All of them have conducted Open Lessons and have been directly involved in Gu's "enactment-based learning" and have worked on lesson cases. In the interviews, all teachers were asked to talk about (a) their understanding of the model, (b) a specific case of "enactment-based learning" that they had experienced and (c) what they had benefited most from participating in this model of learning. For example, a chemistry teacher provided an account of his own lesson case of how to conduct revision lessons during an examination preparation period; a mathematics teacher talked about her own lesson case on the teaching of Pythagoras Theorem; another mathematics teacher related a lesson case on teaching similar geometric figures, and a Chinese language teacher talked about how to teach a piece of narrative text on cultural understanding.

Teachers' awareness of xingdong jiaoyu. The interview data revealed that the teachers had different extents of awareness of the term *xingdong jiaoyu* ("enactment-based learning") proposed by Gu. For example, some teachers simply referred to it as "three stages (of implementation) and two reflections (processes)". There were also variations in the implementation. In some cases, the same teacher went through all the processes (see for example Teacher Ha

below). In other cases, because of practical constraints, the lessons were re-taught by different teachers in the same team. Nevertheless, all of them were able to demonstrate an awareness of the rationale behind the model when recounting their own lesson cases. They pointed out that bringing about change in pedagogy required recursive implementation and reflection to identify the problems which contributed to unsatisfactory student learning outcomes and to design pedagogical strategies to address them. For example, one general (Mathematics) science primary teacher, Teacher Ha, recounted that the second stage of implementation when she tried to introduce new pedagogical elements was disastrous. She tried to adopt a student-centred exploratory approach to teach symmetrical geometrical figures. However, the activities she designed were too complex for primary two children. The lesson was chaotic and the children were confused. She invited other teachers and the TR Officers to her classroom when she re-taught the lesson twice to different classes. They helped her to identify the problems and together they fine-tuned the lesson. When she taught the lesson for the fourth time, the student learning outcomes were markedly different from the first stage when she adopted transmissive pedagogy. Students were motivated to learn and they were able to apply the principles to other geometrical shapes that they came across in their daily lives. Teachers were also able to formulate general guiding principles which emerged from their own specific lesson cases. For example, Teacher Ha concluded that the following are factors that must be considered when introducing student-centred exploratory teaching. First, the design of the

activities and their objectives are critical. For example, trying to get primary two kids to distinguish between symmetrical geometrical shapes and patterns in a single activity is beyond their reach when both concepts are new to them. Second, different kinds of scaffolding must be provided to students of different ability levels. Third, students must be coached to conduct exploratory group work. Fourth, enough time must be provided for exploration. Finally, not all topics lend themselves to exploratory group work; the teacher should choose topics judiciously for this kind of pedagogy.

Theory and enactment-based learning. All teachers interviewed were unanimous about the importance of understanding theory through enactment. For example, one physics teacher, Teacher Chan, drew an analogy between enactment-based learning in teaching Newton's Third Law of Action and Reaction. He explained that just telling the students about the relationship between the two forces would not lead to real understanding; it was only when students were involved in experimentation and activities that they were able to fully understand what the Law really meant. According to him, "theory is internalized through putting it in practice." He said, "Especially for young teachers, because they are inexperienced, they often just listen and say very little. Now through enacting a lesson, the teacher has his own views about what should be taught and how the lesson should be taught. He is now a participant of a lesson. He can engage in a dialogue with you and even challenge you. When he is able to challenge you, he is engaged in critical

thinking." He further added that it was only when one had actually gone through the experience that one had the right to express one's own opinion (*fayanquan*) [發言權].

Lesson cases: focus on "knowledge points". All teachers interviewed found writing lesson cases very demanding. A number of them compared writing lesson cases with *shuoke* [說課] (explaining what is to be taught in a lesson and why) and pointed out that the former was much more difficult on the ground that most lesson cases needed to address students' conceptual difficulties. For example, Teacher Li, a mathematics teacher with 7 years' teaching experience who has won numerous teaching awards at different levels, explained that in writing lesson cases, she had to identify a specific topic and to be clear what conceptual problem(s) or issue(s) she wanted to address in the lesson. She also had to evaluate the students' learning outcomes by looking at the work they produced, the interactions in the lesson and the student interview data she collected. She had to discuss whether the new pedagogical strategies were better than existing practice, whether there were remaining questions to be addressed and what alternative views were.

She compared the lesson cases in China and those from overseas that she had read. She said,

> I felt that the (overseas) cases (that I had read) were like stories. … In the mathematics discipline, one must master some "knowledge points"

> and this is a serious matter. I can't write about teaching them in the form of stories. … The overseas cases that I have read talked a lot about practical things, like the games and the activities conducted. In the mathematics lessons in China, of course we try to make the lessons lively, but we focus more on conceptual matters and the "knowledge points" figure more prominently.

Expert guidance and the "colour blending board". The input and guidance from experts and master teachers is another point of convergence among all teachers we interviewed. It was unanimously felt that without the guidance of more capable members, it would not be possible to engage in enactment-based learning in a meaningful way and student learning would not be as effective. One teacher pointed out that without the guidance of an expert or a master teacher, peers tended to make superficial supportive comments in order to maintain a harmonious working relationship. Expert or master teachers were usually more direct and open with their criticisms and this had a positive effect on the quality of the discussion. Initially, they were not used to having their own lesson criticized by experts but they got used to it as time went by. They observed that only when one knew what one's shortcomings were that one could improve. They also pointed out, however, that to engage in a meaningful discussion, the participation of front-line teachers, master teachers and researchers was essential because they were able to bring different expertise and perspectives to bear in making sense of classroom

realities. A metaphor that was commonly used by the teachers to refer to the collaboration between the three parties was a “colour-blending board” on which different colours were blended until they got the right colour tone.

Discussion

As pointed out at the beginning of this chapter, the “third space” is not something that be taken for granted when communities of practice interact for it could result in one community dominating the other. Gu observed in the interviews that since China has opened up to the West, there has been a tendency, both internally and externally driven, to graft foreign practices on local soil with little regard to its historical roots and sociocultural traditions. Citing the *Theory of the Mean*, one of the Chinese classics written by the Chinese philosopher, *Zhuxi*, Gu pointed out that “the truth is often in the middle of the two extremes”.

From the data presented, we can see that the enactment-based learning model that emerged contained two critical elements which are underpinned by Chinese philosophies of teaching and learning. The first one is the *enactment* of ideas or theories in practice and the second one is the guidance of more capable members of the community (see also Gu, 2003, p. 448). As we have seen in the preceding discussion, the dialectical relationship between learning and doing is central to Chinese conception of learning. Case methods of teaching, as expounded by L. Shulman (1992) and J. Shulman (1992) are not

necessarily authentic cases of teaching; some of them could be cases re-written for pedagogical purposes which are based on authentic cases, and they serve to stimulate discussions about pedagogical issues. In the "enactment-based" model, the lesson cases are authentic which serve not just to stimulate discussions but as references for practice. More importantly, it is through the process of enactment that teachers make sense of and re-interpret lesson cases in light of their own classroom realities. The importance attached to understanding subject matter knowledge means that each case is clearly focused on how the lesson could be designed in such a way that would help students to gain a thorough understanding of the key concepts and interrelationship between them. Therefore, while teachers try to move away from teacher-centred transmissive teaching and introduce activities that encourage students to "learn through doing" and to explore answers for themselves, they do not lose sight of the object of learning in each lesson.

The second critical point is the importance of expert guidance. Instead of just relying on peer support, the reflections and subsequent enactments involved front-line teachers, master teachers and the TR Officers. Teachers are confronted with moment by moment pedagogical decisions in response to the immensely complex and ill-defined problems in the classroom. Master teachers and researchers, on the other hand, are able to make sense of classroom events in a theoretically motivated fashion. Both perspectives are brought to bear in making sense of the same lesson and the conversations become highly meaningful. When we asked Gu to elaborate on the three stages

of focusing and the two reflective processes, he explained that in the latter, teachers had to discern the variation between teachers' own current understanding of how a concept / topic should be taught and what had been advocated either by other teachers or in the research literature. In the second reflective process, teachers had to discern the variation between the newly designed lesson and the implemented lesson. Subsequently, they also had to discern the variation between the intended and the achieved student learning outcomes. He pointed out that unless teachers were able to discern the differences, they would not be able to improve on their own teaching. Teachers' discernment, he emphasized, was greatly facilitated by the assistance of master teachers and researchers. As we can see from the interviews with the teachers, the guidance from the experts is crucial in raising the quality of the enactment and the reflections.

What distinguishes enactment-based learning from the traditional lesson research which has been in place since the fifties is that the former is less directive. The master teachers and TR Officers do not participate in the reflective processes from the very beginning. Teachers are given the opportunity to reflect on their own teaching first and to discern for themselves the gap between their existing practices and the target practices. They are given room to explore for themselves aspects of their teaching that they wish to work on. In particular, the attention paid to individual teaching style is noteworthy. The recursive cycle of classroom enactment and reflection provides opportunities for teachers to make sense of the complex interplay

between multifarious dimensions of teaching and student learning outcome. As the interview data showed, this proved to be crucial in helping teachers to assign meaning to what seemed to be remote theoretical knowledge in the context of their own classrooms and to formulate pedagogical principles which guided their future actions.

As all teachers interviewed pointed out, the enactment-based learning process is a “painful” process because it challenges their existing conceptions of teaching and learning, and generates “contradictions” (in Activity Theory terms) as new practices are brought in. For example, the introduction of student-centred exploratory pedagogy has generated conflicts between time allocated to student activities and content coverage. It has also generated conflicts between allowing students to make sense of the knowledge points (*zhishi dian*) and the key points (*zhung dian*) in the activities and making explicit the relationship between them by the teacher. Resolving these contradictions is something which is highly situated and must be grappled by teachers themselves. The teacher interviews showed that the enactment-based model afforded opportunities for doing so.

Conclusion

In this chapter, we have outlined the models of teachers’ profession development adopted in China and discussed the Chinese philosophies of teaching and learning that underlie these models. Drawing on the concept of

the “third space”, “boundary zone” and “boundary crossing”, we examined how case methods in teacher education was brokered by an influential teacher educator in China, Gu Ling Yuan, and his colleagues as they looked for ways to help teachers to move away from teacher-centred to student-centred pedagogies. As Wenger points out, “The learning and innovative potential of a social learning system lies in its configuration of strong core practices and active boundary processes” (Wenger, 2003, p. 85). We have seen how in the process of appropriating the boundary object, that is, case methods that originated in the U.S., Gu and the teachers in a number of schools in Shanghai re-interpreted case methods in the context of Chinese education guided by Chinese philosophies of education which underlie their core practices. We have seen that case methods have been reconceptualised as lesson cases, assigned new meanings and given new elements and vitality by the teachers. The enactment-based teacher learning model is not a foreign practice grafted on local soil with little regard to local cultural tradition, educational beliefs and practices. Rather, Gu and his colleagues, as boundary brokers, have been able to fully exploit the potential for rich learning in the boundary zone. The multiple perspectives embedded in practices from other parts of the world together with those from China, the multi-voicedness of the model involving front-line teachers, expert / master teachers and researchers and the sustained interaction among them resulted in the emergence of a powerful model of teacher learning which has made a strong impact on teacher development in China, resulting in the model being widely promoted by the Ministry of

Education in China.

References

Bereiter, C., & Scardamalia, M. (1993). *Surpassing ourselves: An inquiry into the nature and implications of expertise*. Illinois: Open Court.

Bhabha, H. K. (1994). *The location of culture*. London / New York: Routledge.

Carnegie Task Force on Teaching as a Profession (1986). *A nation prepared: Teachers for the 21st century.* New York: Carnegie Forum on Education and the Economy, Carnegie Corporation.

Chu, Hsi. (1990). *Learning to be a sage: Selections from the conversations of Master Chu, arranged topically* (D. K. Gardner, Trans. with a commentary). Berkeley and Los Angeles: University of California Press.

Confucius (1979). *The analects* (D. C. Lau, Trans.). Hong Kong: The Chinese University Press.

Dai, J. P. (2005). *Discuss subject-based teaching consultants' research* [Lun xueke jiaoyanyuan zhi yanjiu]. Retrieved from January 27, 2007, from http://www.jxjy.com.cn/2004/xk/shownews.asp?newsid=4116

Engeström, Y. (1999). Innovative learning in work teams: Analyzing cycles of knowledge creation in practice. In Y. Engeström, R. Miettinen & R.-L. Punamäki (Eds.), *Perspectives on activity theory* (pp. 371-405). Cambridge: Cambridge University Press.

Engeström, Y. (2001). Expansive learning at work. *Journal of Education and Work, 14*(1), 133-156.

Engeström, Y., Engeström, R., & Kärkkäinen, M. (1995). Polycontextuality and boundary crossing in expert cognition: Learning and problem solving in complex work activities. *Learning and Instruction, 5*(4), 319-336.

Fraser-Abder, P. & Chen, S. L. (2002). Professional development in Japan and China: Issues and challenges. In P. Fraser-Abder (Ed.), *Professional development of science teachers: Local insights with lessons for the global community* (pp. 38-55). New York: Routledge.

Gao, S. L. (2005). *Xueji yanjiu [學記研究]* (Research on Xueji). Beijing: People's Education Press.

Gardner, D. K. (2003). *Zhu Xi's reading of the analects*. New York: Columbia University Press.

Grossman, P. L. (1992). Teaching and learning with cases: Unanswered questions. In J. Shulman, H. (Ed.), *Case methods in teacher education* (pp. 227-239). New York: Teachers College Press.

Gu, L. Y. (2003). *Jiaoxue gaige de xingdong yu quanshi [教學改革的行動與詮釋]* (Education reform - action and interpretation). Beijing: People's Education Press.

Gu, L. Y., Nie, B. H. & Yi, L. F. (2002). *Xunzhao zhongjian didai [尋找中間地帶]* (Searching for the middle ground). Shanghai: Shanghai Education Press.

Guo, S. B. (1999). *Current issues in teacher education in China*. Paper

presented at the annual meeting of the Comparative and International Education Society, Toronto, Canada. Eric Reproduction Document No. 436493.

Guo, S. B. (2005). Exploring current issues in teacher education in China. *The Alberta Journal of Educational Research, 51*(1), 69-84.

Gutiérrez, K. D., Baquedano-López, P., & Tejeda, C. (1999). Rethinking diversity: Hybridity and hybrid language practices in the third space. *Mind, Culture and Activity, 6*(4), 286-303.

Hu, H. M. (2005). Structure and functions of teaching research group [Jiaoyan zuzhi jianshe ji huodong kazhan]. In X. F. Wang (Ed.), *Xin ke cheng xia bei jingxia de jiao shi zhuan ye fazhan* (pp. 185-198). Shanghai: Huadong shida.

Konkola, R. (2001). Harjoittelun kehittämisprosessi ammattikorkeakoulussa ja rajavyöhyketoiminta uudenlaisena toimintamallina [Developmental process of internship at polytechnic and boundary-zone activity as a new model for activity]. In T. Tuomi-Gröhn & Y. Engeström (Eds.), *Koulun ja työn rajavyöhykkeellä - uusia työssäoppimisen mahdollisuuksia* [At the boundary-zone between school and work - new possibilities of work-based learning] (pp. 148-186). Helsinki: University Press.

Kothargen, F., Loughran, J., & Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education, 22*(8), 1020-1041.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press

Lin, Y. W. & Cheng, T. J. (2004). An investigation of rationales of school-based teacher training [Jiao ben jiao shi pei xun de he li xing zhui jiu]. *JiaoYu YanJiu, 6*, 77-83.

Ma, L. (1992). *Discussing teacher induction in China and relevant debates in the United States with a Chinese teacher: A Conversation with Yu Yi.* (Research Report No. Craft Paper 92-2). Michigan: The National Center for Research on Teacher Learning.

Ma, L. (1999). *Knowing and teaching elementary Mathematics: Teachers' understanding of fundamental Mathematics in China and the United States*. Mahwah, N.J.: Lawrence Erlbaum Associates.

McIntyre, D., & Hagger, H. (1992). Professional development through the Oxford internship model. *British Journal of Educational Studies, 40*(3), 264-283.

Paine, L. W. (1990). The teacher as virtuoso: A Chinese model for teaching. *Teachers College Record, 92*(1), 49-81.

Paine, L. W. (1992). Teaching and modernization in contemporary China. In R. Hayhoe (Ed.), *Education and modernization: The Chinese experience* (pp. 183-210). Oxford: Pergamon.

Paine, L. W. (1995). Teacher education in search of a metaphor: Defining the relationship between teachers, teaching and the state in China. In M. B. Ginsburg, B. Lindsay (Eds.), *The political dimension in teacher*

education: Comparative perspectives on policy formation, socialization and society (pp. 76-98) London: Falmer Press.

Paine, L. W. & Ma, L. P. (1993). Teachers working together: A dialogue on organizational and cultural perspectives of Chinese teachers. *International Journal of Educational Research, 19*(8), 675-697.

Putnam, R. T., Borko, H. (1997). Teacher learning: Implications of new views of cognition. In B. J. Biddle, T. L. Good, I. Goodson (Ed.), *International handbook of teachers and teaching* (Vol. II, pp. 1223-1296). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Ryle, G. (1949). *The concept of mind.* London: Hutchinson.

Schön, D. (1983). *The reflective practitioner*. London: Basic Books Ltd.

Shulman, J. H. (1992). Introduction. In J. Shulman, H. (Ed.), *Case methods in teacher education* (pp. xiii-xvii). New York: Teachers College Press.

Shulman, L. (1986). Those who understand knowledge growth in teaching. *Educational Researcher, 15*(2), 4-14.

Shulman, L. (1992). Towards a Pedagogy of Cases. In J. Shulman, H. (Ed.), *Case methods in teacher education* (pp. 1-30). New York: Teachers College Press.

Tuomi-Gröhn, T., Engeström, Y., & Young, M. (2003). From transfer to boundary-crossing between school and work as a tool for developing vocational education: An introduction. In T. Tuomi-Gröhn & Y.

Engeström (Eds.), *Between school and work: New perspectives on transfer and boundary-crossing* (pp. 1-15). Amsterdam: Pergamon.

Wang, J. (2001). Contexts of mentoring and opportunities for learning to teach: A comparative study of mentoring practice. *Teaching and Teacher Education, 17*(1), 51-73.

Wang, J. & Paine, L. W. (2003). Learning to each with mandated curriculum and public examination of teaching as contexts. *Teaching and Teacher Education, 19*(1), 75-94.

Wang, J., Strong, M., & Odell, S. J. (2004). Mentor-novice conversations about teaching: A comparison of two U. S. and two Chinese cases. *Teachers College Record, 106*(4), 775-813.

Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge: Cambridge University Press.

Wenger, E. (2003). Communities of practice and social learning systems. In D. Nicolini, S. Gherardi, & D. Yanow (Eds.), *Knowing in organizations: A practice-based approach* (pp. 76-99). Armonk, NY: M.E. Sharpe.

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice*. Boston, Mass.: Harvard Business School Press.

Xie, A. B. (2001). The development and reform of teacher education in China: Theoretical issues. *Asia-Pacific Journal of Teacher Education and Development, 4*(2), 41-59.

Yang, D. P. & Wu, J. Q. (1999). Some issues in the reform and development of

teacher education and training in China. *Teacher Development, 3*(2), 157-172.

Endnotes

[1]The Chinese version is “學而時習之。不亦說乎。”

[2]Chu Hsi is a variation of the romanization *Zhu Xi*.

[3]The Chinese version is “學然後知不足，教然後知困。知不足，然後能自反也。知困，然後能自強也。”

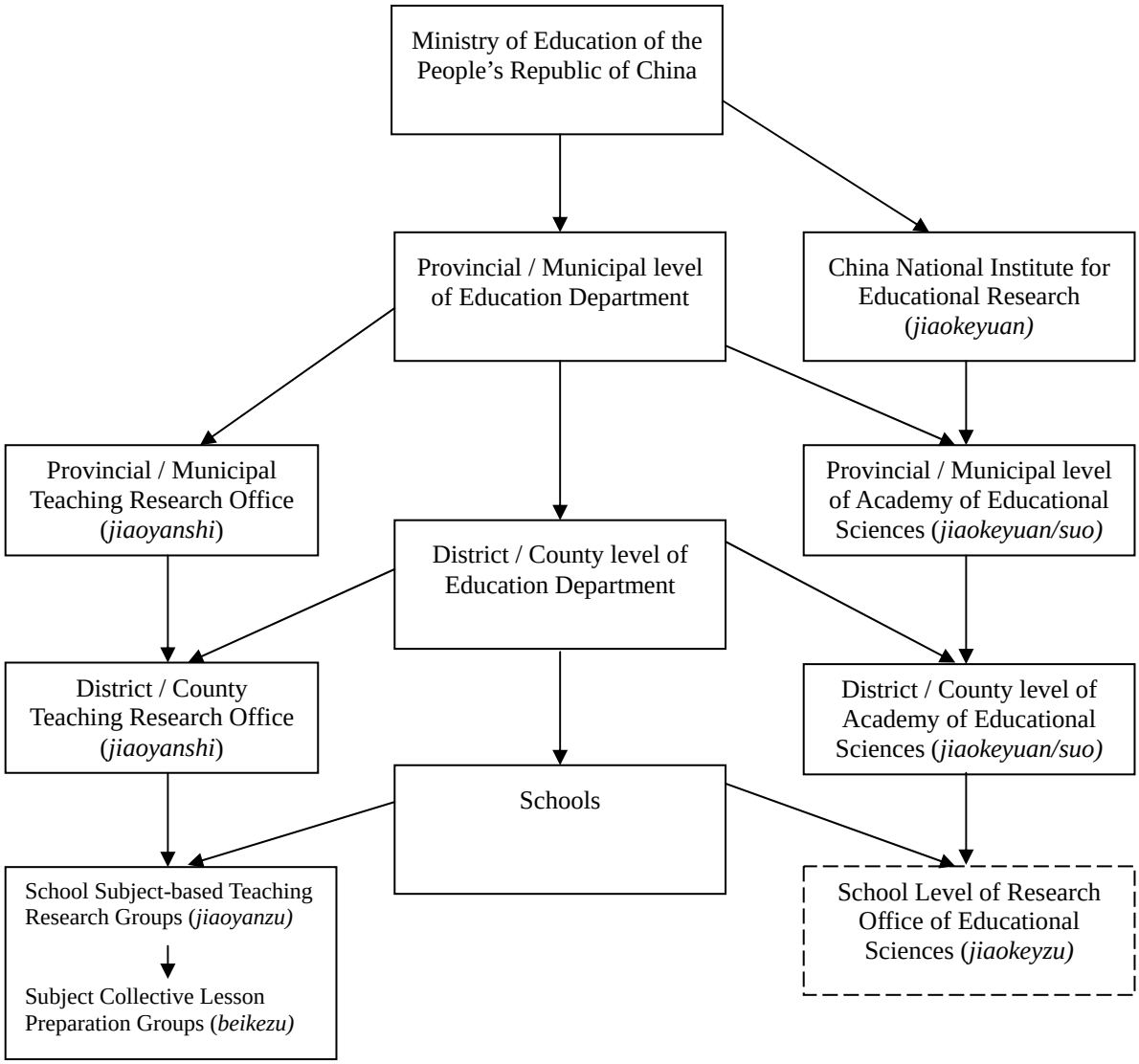
[4]The Chinese version is “道而弗牽，強而弗抑，開而弗達。”

[5]The literal translation of *xingdong ziaoyu* is “action education”. However in this chapter, this literal translation is not adopted so as not to confuse it “action research” which has become widely adopted in teacher education programs in the West since the eighties. Instead, the term “enactment-based learning” is used as it better reflects the essence of the model and its underlying philosophy of learning.

[6]L. Shulman (1992) points out that “a case has a narrative, a story, a set of events that unfolds over time in a particular place.” Teaching narratives have a plot and dramatic tension that needs to be resolved. They are situated and as such they reflect the sociocultural contexts in which the events take place.

[7]The Chinese expression is “情理之中，意料之外”. This is an expression in Chinese commonly used to describe events, stories and melodrama. Events which are not within reason is unconvincing and those which are not out of one’s expectation are not worth writing about.

Figure 1. Hierarchical Structure of Teaching Research Bodies



Keys:

Denotes the bureaucratic structure of Teaching Research bodies

Denotes non-regular office in schools and it can be found in some key point schools

Figure 2. Ancient Chinese characters for “learn” (*xue xi*)

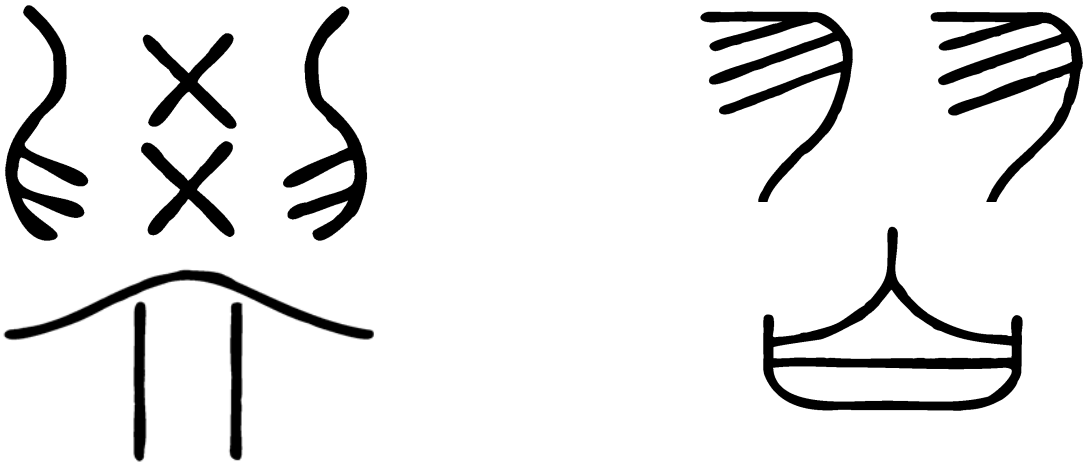
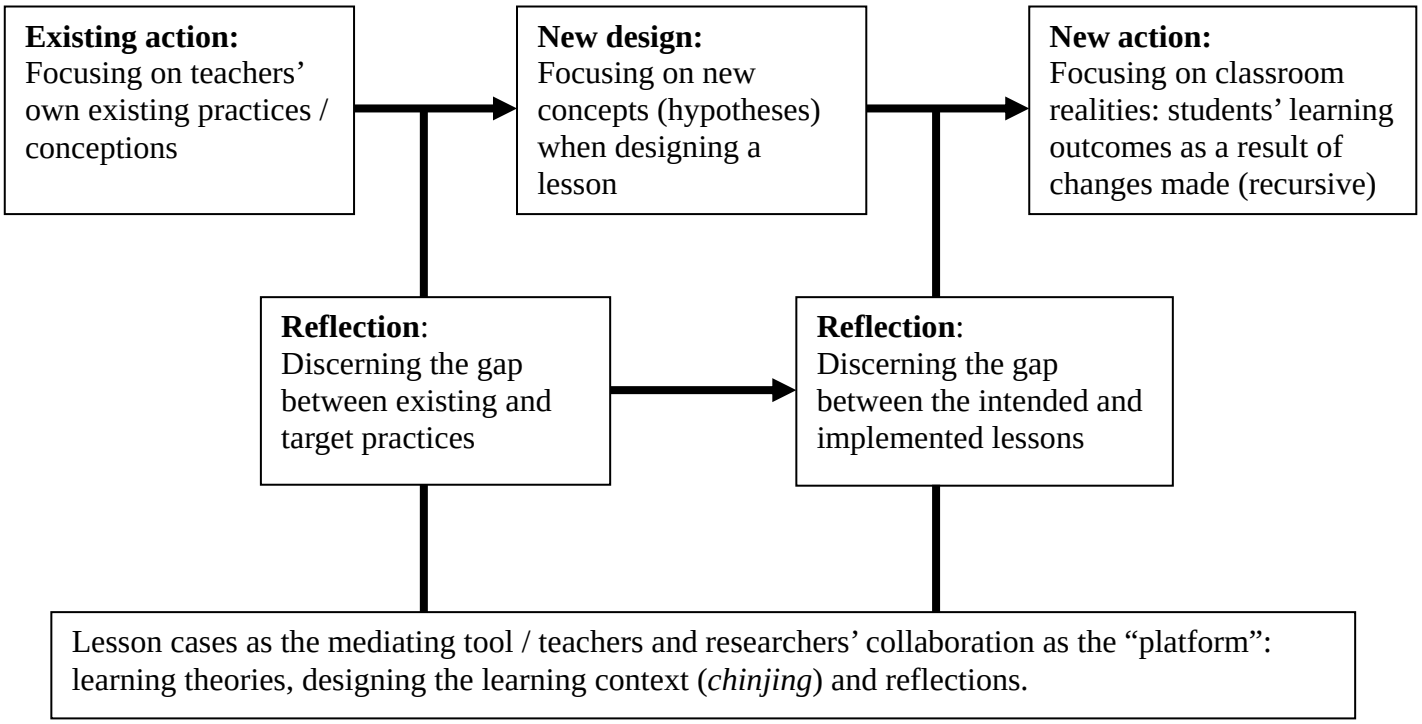


Figure 3. Xingdong Jiaoyu (Enactment-based learning)



Source: Gu, L. Y. (2003). *Jiaoxue Gaige de Xingdong yu Quanshi [教學改革的行動與詮釋]* (Education Reform - Action and Interpretation) (p. 430). Beijing: People's Education Press.