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The Development of a School-Based Model of Self-Regulated Learning in Hong Kong Secondary School Classrooms

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Abstract

As an international city, Hong Kong has witnessed waves of education reforms since 2000. Despite the many initiatives conducted through government policies and school practices, many of these reforms fell short of public expectation to improve the quality of students' learning. This article reports how a Hong Kong secondary school developed a school-based model of self-regulated learning (SRL) by integrating classroom practice with evidence-based theories and researches in the process of a pedagogical improvement program. Elements of good practices in SRL lesson organization are adapted from the frontline experience of Shandong schools in Mainland China, and then a holistic framework of self-regulation mechanism constructed based on international SRL theories and researches, and finally, an implementation system is developed to put into practice the lesson organization and self-regulation mechanism. Looking back on the development of SRL, this article concludes by highlighting its contribution to bridging the western paradigm of SRL and the Chinese model of SRL, and its implication for future exploration on SRL classroom practice for pedagogical improvement.

Keywords: Shandong model of SRL, SRL lesson organization and classroom practice, self-regulation mechanism, school-based model of SRL

1 Introduction

The development of self-regulated learning (SRL) in Chinese classrooms has aroused nationwide interest and captured the attention of Hong Kong schools in recent years. Against the setting of centralized education reforms in classroom teaching and learning, increasing number of schools in different regions of Mainland China are now experimenting or implementing SRL in their classrooms. Professional exchanges between the Mainland Chinese schools and Hong Kong schools have become more often than before.

In Hong Kong, the interest in SRL among the school sector grew from a general discontent with the results of local education reforms and a pursuit for self-improvement (Ho, 2012, 2013). Like Mainland China and many other parts of the world, Hong Kong has undergone a series of education reforms since 2000. Despite the effort of the government and schools, many of these reform initiatives fell short of public expectation to effect real changes in classroom practice and improve the quality of students' learning (Cheng, 2009; The Hong Kong Association of Heads of Secondary Schools, 2013; The Joint Committee of Secondary School Councils and Secondary School Principal Associations of the eighteen districts, 2011).

This article reports how a secondary school in Hong Kong, a core member of the SRL school network of the Hong Kong Association of Heads of Secondary Schools, reconstructed a model of SRL classroom practice by adapting the Mainland Chinese SRL model in Hong Kong school-based contexts and linking it to international SRL theories and research. The purpose of developing such a model is to embark on a SRL program in school for pedagogical improvement that can help teachers adapt their pedagogy and create classroom conditions that can help students become capable self-regulated learners of the 21st century.

Specifically, this article is made up of four parts. The first three parts expound the three building blocks of this school-based model, namely the lesson organization, the regulation mechanism and the intervention system, which correspond to the three different stages in the development of our model. The fourth part summarizes the main ideas and highlights the implication of this integrated school-based model for the future development of SRL.

2 The Lesson Organization -- Learning from the Mainland Chinese Classroom Experience

The first step in developing our school-based model is to look for practical experience on how to implement SRL in everyday lessons. In search of good practices of SRL in the classroom, my teachers and I visited schools in both the

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northern and southern parts of Mainland China, including Shandong and Guangdong Provinces. Our aim was to discover and explore any general rules and patterns of the organization of an SRL lesson for teachers to put into their day-to-day classroom practice.

From our observation and study, we found the Shandong model by far the most operationalized and dominant classroom model of SRL in Mainland China (Cui & Yu, 2012; Ho, 2012, 2013; Hou, Cui, Liu, & Li, 2010; Jiang & Hong, 2012; Pan & Cui, 2008; Xu, 2012). Over the past few years, many schools in different parts of Mainland China have been visiting SRL classrooms in Shandong schools, particularly the two famous schools, Dulangkou Secondary School and Changle No. 2 Secondary School, to learn from their practical experience and adapt the Shandong model into their own schools. The experience of pedagogical reform in implementing SRL in the classroom has given us a lot of useful insights for the first step of our model development.

To build up a model of SRL lesson organization, I have looked into three interrelated issues: The guiding principles, the lesson sessions, and the learning activities. By adapting some of the classroom practice of the Shandong model on these three areas, we are able to come up with an operational framework for teachers to make reference to in their daily lessons.

2.1 The Guiding Principles

In order to understand how an SRL lesson is organized, it is necessary for us to first examine the underlying guiding principles. From our study of the Shandong model, I have extracted four fundamental guiding principles and adapted them into our school-based model. As we can see, all of these guiding principles are an inversion of the traditional model of classroom teaching.

1. Learn first, then teach (先學後教 "Xian Xue Hou Jiao"):
   According to the first principle, learning comes before teaching instead of the other way round as practiced in the traditional lesson. Students are required to self-study or group study before the lesson and teachers teach only after students have done their preparation work individually or collectively, which is typically in the form of pre-study task sheets (yu xi an) specially designed by the teachers and distributed before the lesson.

2. Let learning decide teaching (以學定教 "Yi Xue Ding Jiao"):
   The second principle requires teachers adapting their teaching to the learning of their students rather than students adapting their learning to the teaching of their teachers as in traditional lesson. As students have to do their pre-study task sheets before lesson, teachers can have a better prior understanding of the level of their students and their learning difficulties before teaching and henceforth adjust their teaching accordingly.

3. Teach less, learn more (教少學多 "Jiao Shao Xue Duo"):
   Unlike traditional lesson in which teachers teach as much as possible to cover every aspect of the curriculum, our SRL lesson observes the principle of teachers teaching less so that students may learn more on their own and together with their classmates. Teachers teach only the things which students cannot understand by learning individually or collectively but can do so by being taught by their teachers.

4. Reduce load, enhance effectiveness (減負增效 "Jian Fu Zeng Xiao"):
   The fourth principle explains the purpose of the preceding three principles. As teachers teach less, they can save their labour and spend more time focusing on the most difficult parts thus helping their students more effectively. Students, instead of over-depending on their teachers, can have greater autonomy and learn how to learn more independently and effectively.
   As a whole, these four principles adapted from the Shandong model have very concisely summarized the most fundamental ideals of SRL lesson organization. They provide teachers with a clear guideline about the distinction between a SRL lesson and a traditional lesson by their lesson organization. Students learn first so that teachers can adapt their teaching, teach less but more effectively. As a result, students have more opportunity to learn by themselves and from their peers and become more capable self-regulated learners. These principles are in fact surprisingly consistent with the lesson organization of the Flipped Classroom -- a new instructional model which inverts the traditional teaching methods, first introduced in the United States and now growing in popularity in Singapore, Taiwan and Mainland China -- and is considered by some scholars a most recent development of SRL in the digital era (Bishop & Verleger, 2013; Fulton, 2012; Hamdan, McKnight, McKnight, & Arfstrom, 2013; Jin, 2013).

2.2 The Lesson Sessions

While the guiding principles explicate the underlying rationale of the lesson organization, the lesson sessions describe the observable pattern of how teachers divide their SRL lessons into different parts for different purposes. Based on the Shandong model, I have constructed a SRL lesson organization structure comprised of four basic lesson sessions.

1. Self-learning session (自學 "Zi Xue"):
   In this lesson session, students are required to learn on their own, usually before and at the beginning of a lesson or a task, and after the finish of a lesson or a task. This gives students an opportunity to take up the responsibility for their own learning and train up their independent learning capability.

2. Co-learning session (共學 "Gong Xue"):
   Unlike the self-learning session by which students learn solely on their own, the co-learning session encourages cooperative learning in groups. This usually takes place after students finish their self-learning, and after the introduction of topics and instruction of tasks by the teachers.

3. Mutual learning session (互學 "Hu Xue"):
   During this session, students learn from each other across different groups. Between-group interaction and exchanges are facilitated to promote collaboration as well as competition. This session usually follows students' finish of within group co-learning and comes before teachers' teaching.

4. Teacher-directed learning session (導學 "Dao Xue"):
   This is the only session during which teachers teach directly to the students. It is important for students to learn not only on their own and with their peers but also from their teachers to be self-regulated learners. Very often, it takes place at the beginning of the lesson, after students finish co-learning and/or mutual learning, and at the end of the lesson.

While our lesson sessions are adapted from the Shandong model, there are, however, significant differences between the two models. Unlike the original Shandong model which is highly routinized and prescriptive, demanding teachers to follow strictly a fixed sequence and even exact time allocation, as exemplified by the two very famous schools in Shandong, Dulangkou Secondary School and Changle No. 2 Secondary School (Experimental District of Weifang Shandong, 2012; Li & Li, 2009), the organization of our lesson sessions is much more flexible and dynamic. No standard pattern is mandatory in our model and teachers are given greater autonomy to adapt the organization of their SRL lessons in real context.

2.3 The Learning Activities

In an SRL lesson, the learning activities are particularly important and are closely linked to the lesson sessions. Students are required to engage in specific types of learning activities for different learning tasks with specific learning goals in different sessions of the lesson, by which their SRL is fostered in the classroom. From our observation of Shandong SRL lessons, we have identified a number of core learning activities under each of the four lesson sessions and have adapted them into our school-based model.

1. Self-learning activities:
   These are the learning activities in which students usually engage during the self-learning lesson session. They may be in the form of pre-study task completion, information search or pre-reading, reciting or reading aloud certain paragraphs and revising what have been learnt.

2. Co-learning activities:
   Students engage in co-learning activities when they are working in groups. In the co-learning lesson session, they usually compare and check answers, seek help and give help among themselves when they have difficulties, problem-solve together and give group presentation verbally and in written forms on the blackboards.

3. Mutual learning activities:
   Mutual learning activities refer to activities students engage in when interacting with students from other groups. Examples of these include: Asking and answering questions, clarifying, elaborating, supplementing and correcting answers, giving criticism and peer evaluation.

4. Teacher-directed learning activities:
   These are learning activities students are required to attend to during the teacher-directed lesson session. They include listening to teachers' introduction of topics and objectives, taking notes, following instructions on leaning tasks and activities, answering questions, making sense of and responding to teachers' feedback, explanation, conclusion and evaluation.
   With the guiding principles, the lesson sessions and the learning activities, we may now construct the organization structure of a SRL lesson (see Table 1). From the Shandong model, we have adapted its well-defined operation principles and organization framework, its embedding SRL in everyday lessons with clear procedures of learning activities connected to specific learning tasks and learning goals. According to the reports of both the teachers and students, these highly structured and organized patterns of SRL lessons help students to develop a positive, independent yet cooperative learning habit and disposition which enhance their motivation to learn, their use of learning strategies and metacognitive regulation.

However, the Shandong model also has serious limitations which our Hong Kong's school-based model must overcome. Under the influence of the centralized

Table 1 The Organization Structure of a SRL Lesson: The Four Lesson Sessions

Lesson Sessions	Key learning activities of students
Self-learning	Pre-study, information search, pre-reading, reciting & revision, etc.
Co-learning	Compare answers, problem solve, peer help & group presentation, etc.
Mutual learning	Ask & answer questions, clarify, correct, elaborate, criticize & evaluate, etc.
Teacher-directed learning	Listen, take notes, follow instructions, answer, interpret & respond, etc.

education system in Mainland China, there is a tendency for the Chinese model to be overly top-down, too rigid and too prescribed to allow sufficient flexibility, spontaneity and creativity to cater for individual differences and personalized learning. Another limitation of the Shandong model is its over-reliance on practical application and the lack of a coherent theoretical framework and evidence-based research. Without an evidence-based understanding of the underlying mechanism of SRL in the classroom, practitioners may easily resort to personal intuition and practical experience of the past or other people. To tackle this problem, we have to turn to our next step of model development.

3 The Self-Regulation Mechanism -- Linking Practice to International SRL Theory and Research

The second step in developing our school-based model is to substantiate our SRL lesson organization structure with a well-informed knowledge base. To do this, we have conducted a comprehensive literature review of international SRL theory and research and a series of training workshops for teachers. Our ultimate aim is to help teachers to acquire an overall understanding of the self-regulation mechanism underlying students' self-regulated learning so that they can organize and conduct their SRL lessons more effectively.

In the following paragraphs, I first analyzed the self-regulation processes of students in the classroom, then identified a set of proven strategies which can facilitate these self-regulation processes as validated by SRL research, and finally drew up a holistic framework of self-regulation in the classroom.

3.1 The Self-Regulation Processes

SRL is a proactive learning process, in which students apply and adapt self-regulation strategies related to a number of dimensions to attain specific goals (Duckworth, Akerman, MacGregor, Salter, & Vorhaus, 2009; Montalvo & Torres, 2004; Pintrich & Groot, 1990; Rhee & Pintrich, 2004; Zimmermann & Pons, 1986, 2004). Based on the classification by the Pintrich and Groot (Pintrich & Groot, 1990), Zimmermann and Pons (1986, 2004), the following four key dimensions of self-regulation processes are adopted in our school-based model.

1. Motivational/affective regulation:
   Students show a set of motivational beliefs and adaptive emotional responses and adjust them to specific learning contexts and tasks.
2. Behavioral/contextual regulation:
   Students control and regulate personal and interpersonal engagement, academic tasks, modify their learning environments and seeking help from teachers and classmates.
3. Cognitive regulation:
   Students use a series of cognitive strategies to attend to, retrieve, elaborate, organize and possess critically information in completing specific learning tasks.
4. Meta-cognitive regulation:
   Students plan, control and direct their mental processes, reflect, evaluate and adjust their learning strategies towards the achievement of personal and collective goals.

From literature review, we know that these four dimensions of self-regulation processes are conceptually distinct but empirically interrelated. Whether students can effectively integrate these processes in the classroom will determine the effectiveness of our SRL lessons.

3.2 The Facilitating Strategies

To help students regulate their learning, we need appropriate strategies to facilitate the above self-regulation processes. From international SRL theory and research, we have identified a number of facilitating strategies (Duckworth et al., 2009; Goetz, Nett, & Hall, 2013; Paris, 2004; Paris & Paris, 2001; Rhee & Pintrich, 2004; Schunk & Zimmerman, 1997; Zumbrunn et al., 2011) and have them classified into three main types in our school-based model.

1. Teacher instruction strategies:
   e.g., direct instruction and modeling; guided and independent practice; challenging goals and authentic tasks; reflective construction; progress feedback; summative and formative assessment.
2. Peer support strategies:
   e.g., reciprocal teaching, cooperative and collaborative

learning; peer observation, help and demonstration; group discussion, debate, critique and evaluation.

3. Self-learning strategies:
   e.g., self-understanding of personal learning styles and strategies; self-evaluation of what one knows and does not know; periodic self-assessment of learning goals, processes and outcomes; self-management of thinking, effort and affect; volitional strategies and cognitive behavioral training.

As we can see, these three types of facilitating strategies correspond very well with the four lesson sessions of a SRL lesson in our school-based model. The first type Teacher instruction strategies falls under the Teacher-directed lesson session; the second type Peer support strategies falls under the two lesson sessions co-learning and mutual learning, whereas the third type Self-learning strategies corresponds exactly to the lesson session self-learning.

3.3 A Holistic Framework

By linking the self-regulation processes and the facilitating strategies to our lesson organization structure of lesson sessions and learning activities we discussed in the preceding section, we are able to develop a holistic framework of self-regulation mechanism in a SRL lesson (see Table 2).

In the four lesson sessions of a SRL lesson, students are

Table 2 A Holistic Framework of SRL Lesson Sessions, Learning Activities, Facilitating Strategies and Self-Regulation Processes

SRL lesson sessions & learning activities	Facilitating strategies used	Self-regulation processes activated
1. Self-learning Before/at the beginning/end of a lesson/task, students:	**Self-learning strategies**	
- understand learning goals, tasks & assessments - establish task interest & value - build expectation of self-efficacy - invoke feeling about tasks & assessments	periodic self-assessment of learning goals, processes & outcome	Motivational regulation
- get prepared for lesson - engage in pre-lesson & during-lesson tasks - observe classroom routines - avoid distraction	volitional strategies & cognitive behavioral training	Behavioral regulation
- activate & relate to previous learning - locate key points - apply learning strategies to complete tasks - identify learning difficulties	personal learning styles and strategies	Cognitive regulation
- self-reflect & self-record - self adjust expectation, behavior & strategies	self-evaluation of what one knows & does not know, self-management of thinking, effort & affect	Meta-cognitive regulation
2. Co-learning After students finish self-learning, and teacher's allocation & instruction of a task, Students:	**Peer support strategies**	
- gives encouragement to each other - receive positive reinforcement from members	cooperative & collaborative learning	Motivational regulation
- seek help from members - give help to members - divide duties & tasks - sit in groups & share materials	cooperative & collaborative learning, peer help	Behavioral regulation
- check each other's answers - exchange & discuss answers - make compromise & decide best answers - present group work	reciprocal teaching, peer observation, help & demonstration; group discussion	Cognitive regulation

Table 2 A Holistic Framework of SRL Lesson Sessions, Learning Activities, Facilitating Strategies and Self-Regulation Processes (continued)

SRL lesson sessions & learning activities	Facilitating strategies used	Self-regulation processes activated
- group reflect & group-record - group adjust expectation, behavior & strategies	Monitoring & evaluation of self and group performance	Meta-cognitive regulation
3. Mutual learning After students finish within-group learning, students:	**Peer learning strategies**	
- compete for group performance - receive positive & negative reinforcement from other groups	cooperative and collaborative learning	Motivational regulation
- stay focused on tasks - interact with other groups	reciprocal teaching	Behavioral regulation
- ask questions - correct & modify answers - challenge & criticize others' answers - give evaluation of performance & outcomes of other groups	debate & critique	Cognitive regulation
- group evaluate & group record - group adjust expectation, behavior & strategies	monitoring & evaluation of self and group performance	Meta-cognitive regulation
4. Teacher-directed learning At the beginning/end of lesson, after students finish within-group and between-group learning, students:	**Teacher instruction strategies**	
- understand learning goals, tasks & assessments - establish task interest & value - build expectation of self-efficacy - invoke feeling about tasks & assessments	direct instruction & modeling	Motivational regulation
- attend to teacher's presentation - follow teacher's instructions	direct instruction & modeling	Behavioral regulation
- respond to questions & feedback - clarify confusion & misconception - deepen understanding - construct knowledge	guided & independent practice, challenging goals & authentic tasks, progress feedback, reflective construction	Cognitive regulation
- conclude & draw implications - extend learning	reflective construction, summative and formative assessment	Meta-cognitive regulation

encouraged by the teacher to engage in different learning activities, in which specific facilitating strategies are used which in turn activate the self-regulation processes. At different times in a SRL lesson, at the beginning and the end of the lesson, before and after different tasks, different self-regulation processes are activated as the teacher organizes his lesson into different sessions with different learning activities. As shown in Table 2, the core learning strategies in the Self-learning session involve mainly Self-learning strategies, those in the Co-learning and Mutual learning sessions both involve mainly Peer learning strategies, whereas those in the Self-learning session involve mainly Teacher instruction strategies. Despite the differences in learning activities and facilitating strategies, the four lesson sessions are all connected to the four key dimensions of self-regulation processes -- the motivational, the behavioral, the cognitive and the meta-cognitive.

Based on this holistic framework, teachers can make

informed decision as to how to organize their lessons into different sessions with different learning activities and tasks towards specific goals, thereby creating favorable conditions to facilitate student self-regulated learning motivationally, behaviorally, cognitively and metacognitively. A fully engaged SRL lesson is one in which all the four key dimensions of self-regulation processes are effectively activated throughout the four lesson sessions with appropriate learning activities and facilitating strategies.

4 The Intervention System -- Starting Up the SRL Program in School

Now that we have the SRL lesson organization structure and the underlying self-regulation mechanism for our school-based model, our next challenge is to put them into action in school contexts. For our SRL model to have real impact on student learning in school, we must have a truly school-based intervention system in place. So the third and final step in developing our school-based model is to design an intervention system that can effectively kick off the SRL program school-wide.

Our intervention system is made up of three key elements: the instructional modes, the implementation strategy, and the self-evaluation mechanism. Together these three elements contribute to building up the capacity of the whole school in the implementation of our SRL program and cultivation of a culture of SRL among students as well as teachers.

4.1 The Instructional Modes

For our SRL model to be truly school-based, we need a differentiated repertoire of instructional modes which teachers can choose for adapting their classroom practice to the specific contexts of the school. These school-based contexts include: 1. Student differences in abilities and learning styles; 2. Teacher differences in capabilities and experiences; 3. Class differences in size and composition; and 4. Subject differences in curriculum and pedagogy.

To cater for student-, teacher-, class- and subject-specific differences, I have constructed a typology of four instructional modes based on the relative degree of emphasis of and the amount of time allocated to the four lesson sessions in a SRL lesson (see Table 3). These four modes are by no means exhaustive. Teachers can vary the relative proportion of the four lesson sessions according to the actual needs in school context. Below are some exemplary scenarios for the four instructional modes.

1. Highly teacher-directed mode (高引導式 "Gao Yin Dao Shi'):
   Teachers using the highly teacher-directed mode put more effort and time on instruction, giving students more direction and assistance in the learning process. For teachers who have little experience with SRL in the beginning stage, or teachers who are teaching difficult topics of certain subjects which require more abstract thinking, in particular to a larger or weaker class, or students developing SRL at a slower pace, they will probably prefer the highly teacher-directed mode.
2. Highly collaborative mode (高協作式 "Gao Xie Zuo Shi"):
   In a lesson which is highly collaborative, students spend more time on working together in groups. The teacher's role is to facilitate co-learning within groups as well as mutual learning between groups. For students and teachers who are sociable and active in classroom interaction, and who are working on topics of certain subjects that require a lot of discussion and debate, the highly collaborative mode will be their best choice.
3. Evenly balanced mode (平衡式 "Ping Heng Shi"):
   For the evenly balanced mode, students are given opportunity by their teachers to engage in learning activities of all the four lesson sessions and spend roughly equal amount of effort and time on them in the classroom. Teachers and students staying on this mode are usually quite used to SRL and get the most from all the four lesson components. The size and the learning differences of the class are usually not too big.
4. Highly self-regulated mode (高自主式 "Gao Zi Zhu Shi"):
   Finally, in the highly self-regulated mode, students work on their own for most of the lesson time while instruction of the teachers is kept to the minimum. For teachers who are competent in SRL, and are teaching brighter classes, or students who are confident to take challenges, topics

Table 3 A Differentiated Repertoire of SRL Instructional Modes

Lesson sessions	Highly teacher-directed mode	Highly collaborative mode	Evenly balanced mode	Highly self-regulated mode
Self-learning	Low	Low	Medium	High
Co-learning & mutual learning	Medium	High	Medium	Medium
Teacher-directed learning	High	Medium	Medium	Low

of particular subjects that encourage active construction of knowledge, they are more ready to give their students greater autonomy in classroom learning.

On the whole, the use of differentiated instructional modes is welcome by teachers as well as students. For teachers, the most important advantage of differentiated instructional modes is that they can flexibly adapt their classroom practice to school-based contexts at different stages of our SRL program. As for the students, they enjoy greater variation in lesson organization which can more effectively cater for their learning diversity in lessons of different subjects on different topics for specific grades and classes.

4.2 The Implementation Strategy

To scale up the SRL program across lessons of different classes, grade levels and subjects in the school, and to maximize the effect of SRL on students school-wide, it is essential to design an implementation strategy which can take us through the different stages of development of our school-based model, and help to build up the momentum of the program and the capacity of people concerned. Unlike the Shandong model which is essentially top down, full scale at one go with a one-size-fit-all approach, I have adopted a gradual progression strategy which involves six types of progression in the form of a three-year plan (see Table 4)

1. Progression by year:
   The SRL program is a three-year project of the school's development plan which sets out the overall timeline so that all teachers and students understand the goals, the strategy and the timeline early at the very beginning.
2. Progression by grade level:
   The program starts from Secondary 1 (S1) in the first year when primary school students enter into a new environment in a secondary school and then moves on to S2 and S3 with the same cohorts of students in the second and the third year.
3. Progression by class:
   To help students in the lower-ability classes to adapt themselves to SRL classroom practice, SRL is used in fewer subjects than the high-ability classes in the first

Table 4 A Three-Year Plan of SRL Implementation Strategy

Year	Subjects adopting SRL in 2 higher-ability classes in Secondary 1, 2, & 3 levels	Subjects adopting SRL in 2 lower-ability classes in Secondary 1, 2, & 3 levels	Total number* of teachers involved in SRL project
1	S1: Chinese language Mathematics Integrated Science Integrated Humanities	S1: Chinese language Mathematics	13 (all are first timers in implementing SRL in classroom)
2	S1: Chinese language Mathematics Integrated Science Integrated Humanities S2: Chinese language Mathematics Integrated Science Integrated Humanities	S1: Chinese language Mathematics Integrated Science Integrated Humanities S2: Chinese language Mathematics	22 (12 of them are first timers)
3	S1: Chinese language Mathematics Integrated Science Integrated Humanities S2: Chinese language Mathematics Integrated Science Integrated Humanities S3: Chinese language Mathematics Chemistry Chinese History	S1: Chinese language Mathematics Integrated Science Integrated Humanities S2: Chinese language Mathematics Integrated Science Integrated Humanities S3: Chinese language Mathematics Chemistry Chinese History	30 (10 of them are first timers)

*Among all the teachers involved in the SRL project, one is the assistant principal and the other the principal of the school.

and second years until the third year when both types of classes have the same number of SRL subjects.

4. Progression by subject
   To accumulate experience in implementing SRL in the classroom, the program focuses on a smaller number of subjects in the first and the second year, mainly the major subjects which have more lessons in the school's timetable, and then move on to the minor subjects in S3 in the third year.
5. Progression by student cohort:
   Each year the program starts with a new cohort of students in S1. The total number of cohorts having SRL in lesson moves from one group in the first year to two groups in the second year and then three groups in the third year of the program.
6. Progression by teacher group:
   To build up the capacity of teachers in SRL classroom practice subject-wide and school-wide, the program starts with a smaller number of core teachers who serve as change agents in the first year and then expands the number of teachers to implement SRL by year.

Through SRL activities such as subject and cross-subject meetings, collaborative lesson preparation and peer lesson-observation, training workshops, inter-school visits and sharing, both teachers and students have become more capable self-regulated learners.

4.3 The Self-Evaluation Mechanism

Our school-based model of SRL will not be complete without a self-evaluation mechanism. In fact, self-evaluation is such an important component of SRL on the metacognitive dimension that all practitioners must practice it in their day-to-day work. To keep track of the development of our SRL program for continual improvement, we need a self-evaluation mechanism to study the impact of SRL classroom practice on students and teachers and assess our own performance.

This self-evaluation mechanism is by no means something extra or add-on but a built-in feature of the intervention system of our school-based model. Below is a brief outline of practitioner research we conducted on a number of the key areas of our SRL program with some of the initial findings of the first and second year.

1. Peer classroom observation:
   All teachers participating in the SRL program, irrespective of the grades, classes and subjects they taught, reported that compared with traditional lessons they taught in the past for same subjects, classes and grades, they observed in their SRL lessons great enhancement in the following aspects: students' engagement; students' interest in the lesson, the subject and the teachers; students' self-confidence; peer interaction and cooperation; teacher-student interaction and relationship; students' speaking, writing and presentation opportunity and skills; and organization and thinking skills in general.
2. Subject and cross-subject meetings and collaborative lesson preparation:
   All participating teachers agreed that they had more professional dialogue and collaboration; became more experienced and confident with the use of lesson objectives, learning tasks and activities; and more capable to adapt their lesson organization and classroom strategies to student needs and other school-based contexts.
3. Interim and year-end surveys of SRL teachers:
   All participating teachers and school leaders reported that through the SRL program they now used a common language of classroom practice; strengthened mutual trust, collegiality and team spirit; felt encouraged by the improvement of students learning particularly in motivation and self-efficacy; and raised their expectation of students and confidence in the SRL program.
4. Focus groups for students:
   80 to 90% of students participating in focus groups reported they liked SRL lessons more than traditional lessons; enjoyed group work and competition for rewards; felt more confident to communicate with teachers and classmates; learnt more from other people and look at things from wider perspectives; took greater responsibility in learning and learnt faster than before.
5. Survey by student council and school committee:
   Findings were on the whole consistent with the above. About 80% of students being interviewed agreed or strongly agreed that SRL lessons had positive impact on classroom learning. Some students in the senior forms who did not have the chance to have SRL in their lessons related that they appreciated the way their junior form schoolmates learned in a SRL lesson and believed the spirit of self-regulated learning being important for all students.
6. Longitudinal survey with the support of academics:
   To study the impact of our SRL model more systematically, academics from local universities were invited as research advisers. An instrument to measure student SRL was specially designed and a pre-test and post-test had been conducted at the beginning and end of the second school year. The validity and reliability of the instrument were on the whole positively confirmed but the findings are yet to be published.

5 Summary and Implications

In this article, I have discussed the learning journey of a

Hong Kong secondary school in developing a school-based model of SRL in the classroom. In search of a pedagogy that can create positive impact on student learning, the school has delved into the frontline of pedagogical reform in Mainland China to learn from the practical experience of Shandong schools implementing SRL in their classrooms.

Among the different characteristic features of the Shandong model of SRL, the lesson organization is particularly appealing to Hong Kong teachers. The Shandong model shows its practical wisdom of embedding SRL in everyday lessons with a highly structured and operationalized organization pattern. Based on well-defined fundamental guiding principles, the SRL lesson is divided into different lesson sessions accompanied by different learning activities to help student develop positive learning habit, disposition and capability in SRL.

Useful as it is, the Shandong model, however, has its own limitations. The tendency towards a standard pattern and procedure may lead to the danger of over-routinization of classroom practice. A more serious problem is the lack of a solid base of theory and research. Practitioners may have to depend on personal intuition more than knowledge. So it is important for us to guard against such pitfalls, and to reconstruct the Shandong model of lesson organization with a broader perspective and flexibility.

To help our teachers acquire a deeper understanding of SRL to inform their classroom practice, we have conducted a comprehensive literature review of international SRL theory and research. By connecting theory and research to classroom practice, we are able to analyze the different types of self-regulation processes and facilitating strategies and to construct a holistic framework of SRL lesson in which the relationships between these self-regulation processes and facilitating strategies with the lesson sessions and the learning activities are clearly spelt out.

If the first and second steps of our model development are about reconstruction of practice and knowledge, the focus of our third step is adaptation of the model to school contexts. In order that our model of SRL can become truly school-based and effectively implemented across-the-board in the school, I have developed a differentiated repertoire of instructional modes to cater for individual, teachers, class and subject differences. Teachers can vary the relative proportion of the different lesson sessions and related learning activities to suit the needs in context. In addition to the differentiated instructional modes, an implementation strategy and a self-evaluation mechanism are included in our school-based model to ensure successful startup and continued improvement of our SRL program school-wide.

In retrospect, our school-based model of SRL in the classroom has opened some new directions or lines of thoughts for the future development of SRL. For a long period of time, the paradigm of SRL has predominantly based on Western theorizing and research (McInerney, 2008, 2011). While numerous academic papers with important models, concepts and findings have been published, no coherent instructional framework of SRL in the classroom, except individual techniques and strategies for promoting SRL, has so far been developed (Goetz et al., 2013; Paris, 2004). Our introduction and reconstruction of the Shandong classroom-based model of SRL, with its elaborated patterns of lesson sessions and learning activities, has in fact echoed Boekaerts' view on the importance of finding a pedagogy to support SRL "in the structure of the classroom" (Baumfield, 2004; Boekaerts, 2002), and has shed light into this issue for further exploration.

Another area of academic interest is the integration of practice with theory and research. As we have pointed out, the Shandong model of SRL is typically Chinese in its emphasis on practical application over abstract theorizing and systematic research which has its root in traditional Chinese culture. By reconstructing the Shandong model in practice and linking it to international SRL theory and research, we have demonstrated an endeavour by a researched-engaged school (Dimmock, 2013) in bridging the western paradigm and the Chinese model and the theory-research-policy-practice divide, a divide raised by Dimmock, Fullan, Hargreaves and others (Dimmock, 2012, 2013; Fullan, Hill, & Crevola, 2006; Hargreaves, 2000; Centre for Educational Research and Innovation, 2000, 2007).

Finally, the use of a differentiated repertoire of instructional modes in our model to adapt to the learning contexts has raised the important issue of the complex relationships among students, teachers, classes, subjects and SRL in the classroom. About ten years ago, Archer once discussed the difference between what she called "the productive SRL" and "the counterproductive SRL" and supported with research findings her warnings that "too little SRL" and "too much SRL" may both be counterproductive to student learning. In her view, only the right SRL pedagogy that caters for the needs of the students in context is "productive" (Archer, 2004). The discussion on the four different instructional modes, as suggested by our school-based model of SRL, particularly the "highly teacher-directed mode" and the "highly self-regulated mode" might give us the key to this long neglected issue. It is high time school practitioners rethought and reinvented their classroom practice in order to help all students become more capable self-regulated learners in the 21st century.

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