

Teachers Views and Perceptions towards the Lesson Study Processes

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Abstract

The key to professional development is inquiry. For teachers, it means that they become researchers, inquiring into their own practices for purposes of professional renewal. Lesson Study has been widely accepted as an embedded teacher professional development process. This paper reports on primary school mathematics teachers' view and perceptions toward Lesson Study processes as a mean for their continuous professional development. After their exposure to Lesson Study processes from a four week course at RECSAM, the researchers sought their views and experiences with conducting Lesson Study. The respondents were primary school mathematics teachers and teacher' educators who participated in courses conducted at SEAMEO RECSAM, Penang, Malaysia. The data were drawn through interview and from their project works, journals, reports, and questionnaires. This study noted that most of the teachers held positive but reluctant views on Lesson Study as a path for continuous professional development. They agreed that Lesson Study can be used as effective tool for their professional development under specific circumstance. Possible factors that support and hinder teachers to be engaged in Lesson Study were noted such as flexible time table, teacher's experiences and supportive school policy.

Key words: Professional Development, Lesson Study, Teacher Perceptions

Professional Development for Teachers

'It is teaching, not teachers, that must be changed' (Stigler & Hiebert, 1999, p. 10).

It is believed that the teachers are still the most important asset of the school and that they play a significant role in student learning and in educational reform (Cochran-Smith & Lytle, 1999). This is neither a new nor recent acknowledgement, for as Stenhouse said in 1976 "It is teachers, who in the end, will change the world of the classroom by understanding it" (as cited in Al-Qura'n et al., 2001, p. 396). However, teachers who persevere in the profession and "change the world of the classroom" must add "knowledge-in-practice" and "knowledge-of-practice" (Cochran-Smith & Lytle, 1999) to formal knowledge and theory gained in their professional preparation programs.

In order for teacher's professional development to occur, conditions within the teaching environment must support and encourage teacher learning. In fact, leaders in education reform, in addition to declaring that teacher learning is critical for student learning, are also suggesting that schools must be places where both teachers and students learn (Hargreaves, 1995; Smylie, 1995; Smylie & Hart, 1999). Hence, schools must provide

working environments that enable teachers to develop and improve as they practice the art and skills of teaching.

It is undeniable that teachers need to experience sustained, high-quality professional development in order to improve student learning and classroom instruction. However, teacher professional development efforts are often criticized by educators for their lack of continuity and ability to produce effective change in teacher practice and student learning (Loucks-Horsley, Hewson, Love, & Stiles, 1998). After examining the findings of the Third International Mathematics and Science Study (TIMSS) which showed undesirable results for American students, Stigler and Hiebert (1999) concluded that in fact American teachers are not incompetent, but the teaching methods they use are limited. They further emphasized that American teaching has no system in place for getting better.

Many educational scholars believe that a critical component of any educational reform effort should be to provide teachers with opportunities and appropriate support structures that encourage the critical work of on-going improvement of pedagogical practice (Darling-Hammond & McLaughlin, 1995; Garret, Porter, Desimone, Birman, & Yoon, 2001; Sparks & Hirsh, 1997). Researchers have identified conditions that are associated with the professional growth and the ongoing learning of teachers. Among these conditions are opportunities for collaboration, autonomy and choice in teachers' work, reflection, time within the workday for professional development, and a culture of inquiry (Darling-Hammond & McLaughlin, 1995; Fullan, 1995; Hargreaves, 1995; Lieberman, 1995; Smylie, 1995; Smylie & Hart, 1999; Sparks & Loucks-Horsley, 1990; Zeichner, 2003). With regard to these conditions, Lesson Study is being embraced by many pre-service and in-service programmes as a route to teacher continuous professional development.

Lesson Study as Embedded Teachers Continuous Professional Developments (CPD)

The Japanese Lesson Study, which gained international prominence during the TIMSS (Stigler & Hiebert, 1999), is similar to action research in that it is a systematic inquiry about classroom instructional problem. While Lesson Study forms the core of Japanese professional development, it is still a novelty for other teachers around the globe. This is not surprising for most teacher educators because we do not prepare pre-service or in-service teachers to conduct classroom research or to study their practice (Kincheloe, 2003; Lampert, 1999). In fact, "the low involvement [in research] is attributable, at least in part, to the failure of pre-service programs to prepare and require students [teachers] to conduct research" (Henson, 1996, p.55).

However, since the 1990s Lesson Study has spread globally in countries such as some education systems in the United States (Fernandes, 2005; Lewis, Perry, & Murata, 2006; Lewis & Tsuchida, 1998), in Australia (White & Southwell, 2003) and also in Asia (Cheah,

2008). Some key features of Lesson Study attract educators attention and serve to transform teachers' knowledge. Lesson Study enables teachers to work collaboratively in the lesson planning cycle of assess, plan, teach, reflect and it provides a context to demonstrate reform mathematics teaching in the classroom by helping teachers see the lesson through the eyes of the students (Fernandez, 2005). Hence, teachers who participate in the Lesson Study process have the opportunity to transform their teaching beliefs and knowledge.

A brief review of literature demonstrates the potential benefits offered to teachers involved within the Lesson Study process. For example, Trent, Blum, McLaughlin and Yocom (2005) stated that not only does Lesson Study have the potential to have significant, incremental improvement of teachers' content knowledge and pedagogical skills but also to sustain changes in teaching practice over time. The Lesson Study process offers teachers opportunities to actively engage in deep conversations about curriculum, instruction, student learning and performance in the authentic context of their classroom practice (Stewart & Brendefur, 2005). Moreover, Lewis (2000) stated that Lesson Study has the potential to shift teaching practice from teaching as telling to teaching for understanding. Rock and Wilson (2005) asserted that through Lesson Study process the teachers: (a) found the focused and sustained work stimulated their growth as teachers; (b) experienced an increase in their professional confidence; (c) stressed that the peer collaboration was valuable to their professional development; (d) found the reading and sharing of professional literature and the consultations with experts directly related to the problem of study were very beneficial to the process; and (e) expressed their belief that peer coaching and mediation training would improve their abilities to engage in Lesson Study more effectively.

Nevertheless, the literature also describes the challenges in doing Lesson Study. The Lesson Study process entails professional commitment and trust among teachers to share their ideas, opinions and observations. It obliges teachers to make time to engage fully in each of the steps in the Lesson Study cycle. (Rock & Wilson, 2005; Stewart & Brendefur, 2005). Similarly, Audette (2004) also noted the inherent challenges in Lesson Study. The most formidable challenge is a learning mindset. Lesson Study will only work if the individual teacher is open to learning with and from others. An equally significant challenge is time for teachers to meet and conduct Lesson Study activities, '...the best answer to the questions of time is to be flexible and creative.' (Audette, 2004, p. 34).

Research Study

SEAMEO RECSAM is the Southeast Asian Ministers of Education Organization Regional Education Centre for Science and Mathematics. Established in May 1967, RECSAM is committed to nurturing and enhancing the quality of science and mathematics education in the SEAMEO member countries. Through its clear vision, 'To promote and enhance Science and Mathematics Education in the SEAMEO member countries', and through one of its strategic goals 'Design and implement effective professional development

programmes', RECSAM takes into consideration the emerging issues of Lesson Study as teachers CPD. Within this framework, SEAMEO RECSAM offers courses involving Lesson Study for science and mathematics teachers of SEAMEO member countries. This study is part of the efforts to share RECSAM's experiences in conducting and handling the journey of the Lesson Study process with the participants with various cultural and personal backgrounds.

Aim of the study

The aim of this study was to examine the views of primary mathematics teachers and teacher educators about the Lesson Study process they had experienced during the course at SEAMEO RECSAM. Their anxieties, joys, and excitement during and after the journey in conducting the Lesson Study process were explored and described. Their views of Lesson Study as a means for their professional development were also reported. More specifically, this study was guided by the following research questions:

What are the teacher and teacher educators' views of the Lesson Study process as a mean of Continuous Professional Development?

How did they experience the Lesson Study process?

Context and Methodology

The places. The study took place within SEAMEO RECSAM, Penang, Malaysia, via the various courses and workshops for primary and secondary science and mathematics teachers or teacher educators. A Lesson Study course is offered once in a fiscal year.

The participants. A total of 35 teachers were the subjects of the study. They were the participants of four different courses conducted in RECSAM. Their backgrounds varied with regard to their genders, years of teaching experiences, English language fluency, and school level they taught. Ten primary mathematics teachers and teachers' educators attended a Lesson Study course whereas the others attended three other courses in which they also were given an overview of Lesson Study as CPD. While all 35 teachers responded to the questionnaire on their views on Lesson Study, however only ten teachers from Lesson Study group will be reported in the main study to answer the second research question. Qualitative data on their experiences in doing Lesson Study were collected and analysed.

Data sources and instruments. During the courses, the teachers from non Lesson Study groups were exposed to Lesson Study as CPD for approximately eight teaching hours. They discussed and shared their knowledge, ideas and views of Lesson Study with the course presenters. The teachers were asked to respond to a simple questionnaire which is attached in the appendix. The questionnaire consisted of 16 items statements that were distributed evenly into four aspects or scales, namely, Self Motivation, Lesson Study Benefit, Reflections, and School Policy. The Self Motivation scale sought to assess the extent teacher willing to do

Lesson Study in the classroom. Lesson Study Benefit scale describes teachers' belief on the benefit of doing Lesson Study. Reflection scale measure to what extent teachers practice reflection before, during, and on teaching. Finally, School Policy scale looks at teachers' agreement toward the adoption of Lesson Study practices into school policy practice.

In the Lesson Study group the teachers learnt about the process of Lesson Study and worked in a group to design their Lesson Study plan in the first two weeks. They were exposed to the essential elements and steps of Lesson Study: setting the Lesson Study goals; lesson planning; lesson implementation; and reflection upon the lesson. They have completed three cycles of the Lesson Study process, and wrote up their Lesson Study report in the last weeks. The participants were asked to write their weekly reflections in their journal periodically. The authors as their facilitator and course supervisor respectively, were available for discussion and consultation throughout the course. Data for this section were collected through multiple sources such as participants' journals, reflections, project work, and interviews.

Findings and Discussion

Teachers' views toward Lesson Study processes

To answer the first research question, teachers' responses on the 'My Understandings and Views toward Lesson Study' (MUVLS) questionnaire were analysed. Teachers were asked to rate their agreement to each item statement. A total of 31 teachers completed the questionnaire and returned it to the researchers. Statistical analysis, namely scale reliability analysis was done to ensure that the questionnaire was adequately valid and reliable. Mean and standard deviations for each scale were calculated to portray teachers' views toward the Lesson Study process. Table 1 shows means; standard deviation and Cronbach alpha reliability score for each scale. The values of Cronbach alpha scores ranged from 0.63 to 0.76 imply that the questionnaire was adequately good in measuring teachers' view on Lesson Study processes.

Table 1

Cronbach Alpha, Average Item Mean, Average Standard Deviation Scores of each Scales of the My Understandings and Views toward Lesson Study' (MUVLS) Questionnaire (N=31).

Scale	Items	Cronbach α	Means	Standard Deviation
Self Motivation (SM)	1, 2, 3, 4	0.76	3.45	0.45
Lesson Study Benefits (LSB)	5, 6, 7, 8, 12	0.76	3.51	0.40
Reflection (R)	9, 10, 11	0.63	3.30	0.47
School Policy (SP)	13, 14, 15, 16	0.68	3.34	0.42

Overall, teachers held positive views on all aspects in which the mean scores ranged from 3.30 (Reflection) to 3.51 (Lesson Study Benefits). The highest mean score on Lesson Study Benefits may imply that to such extent the teachers have already done or experienced

Lesson Study. Out of 31 teachers, 18 teachers (58%) said that they have done Lesson Study in their classroom. As doing reflection is key features of Lesson Study, it is understandable why the score on reflection scale was somewhat lower than the others. Many teachers admitted that they may have done the reflection yet seldom had they documented it.

Teachers' experiences in Lesson Study processes

After reading and analysing the available data, this study offers four observations with regard to participants' experiences during their four week journey in the Lesson Study course. First, their anxiety of how to conduct the Lesson Study process was noticed. Second, it was identified that the participants experienced frustration during the process of Lesson Study and the writing up of the Lesson Study report. Third, a moment of celebration was observed after they had finished the report. Finally, their positive views toward Lesson Study as a mean for professional growth were confirmed as part of invaluable lessons they have learnt during the course. These four observations are elaborated below.

Anxiety. Most participants had neither heard about Lesson Study, nor had they done it in their classroom. Lack of knowledge and experience in Lesson Study triggered anxiety feelings among the participants. This feeling became stronger due to their background differences such as their level of English fluency. However, these feelings of uncertainty gradually reduced once they received input and support from the course supervisor and facilitators and as they got to know each other during the first week.

Frustration. Dissatisfaction expressions such as 'Oh God', 'Oh no' and 'Aiyo' were among few that were frequently uttered by participants when they had to plan, design, and implement their collaborative Lesson Study task. Communication became one of the issues:

I was satisfied with the introduction of myself. However I should be able to ask more questions. My problem is the English language....I can't speak English fluently. So my instruction I was confused when I was unhappy and frustrated. I want to improve my English Language and speak more. (Teacher 2. 19.03.2009)

When carrying the lesson, I was able to follow the sequence of activities which we had planned. However, I was not able to carry out the whole lesson in English because of my language barrier. I could not explain the instruction clearly. Thus the flow of lesson was disrupted..... (Teacher 4.23.03.2009)

The problems gradually reduced as participants improved their English and as they developed mutual understanding among group members.

Joy and excitement. Despite the uncertainty and frustration they have gone through the process of doing Lesson Study, the participants eventually deserve to celebrate their joys and excitements after finishing the three cycles of Lesson Study. One group wrote:

We have tried our best to do a circle of Lesson Study through the lesson that we've chosen. We have improved our lesson and ourselves step by step through the meeting for [discussing] lesson plan, student try out, reflections... After all, we recognize that Lesson Study can be done in our countries because it is very familiar with all the things we are doing now; and Lesson Study makes the lesson more meaningful, especially for Mathematics lesson. (Group 3 Reflection)

View on Lesson Study as CPD. Most participants indicated that Lesson Study was a good tool for their continuous professional development. They affirmed that Lesson Study is indeed useful in their teaching to improve their instructional practices and enhance classroom management and would make use of it on returning to their countries. One participant with five years of teaching experiences overtly stated his view:

It was a good experience. I learnt a lot from the 1st try out. For me I have to improve my time management of the lesson, my questioning techniques, my observation skills and my communication skills. In conclusion, I learnt a lot from the 1st try out. I was able to reflect on my own teaching. For me this is important as it is the 1st step towards my professional development. By doing more self reflection and Lesson Study I will be able to move forward to be a better teacher. I can see my weaknesses and strengths in my teaching. (Teacher 1. 12.03.2009)

This study documents that the participants experienced meaningful learning through the Lesson Study process. Participants asserted that Lesson Study enabled them to work collaboratively with peers, to improve their classroom instruction, and eventually to increase their confidence. Participants' reflections provided evidence of these claims.

In this [Lesson Study] try-out, I have the luxury of having all my course mates as my evaluators and observers. They acted as 'my eye of the student'. I am grateful for their valuable feedback. I can only grow as a teacher with this collaborative effort of my course mates. (Teacher 3.27.03.2009)

The following group reflections elaborated the claims made above of how the Lesson Study process improved their classroom instruction and built their confidence in teaching:

After the two rounds of lessons try-out, followed by evaluation and reflections, we realised that implementing hands-on Math activities is not enough. The assessment of each try-out is how well the students are engaged in their learning and not how many fanciful group activities are planned and designed for the students.

We assessed the students learning by observing them in action. We assessed their understanding by employing the appropriate question technique during our lesson. We must observe the students' behavior during the process of team work in group activities. It is only in real time, we can evaluate how well the students have learnt. If we just provide the student evaluation form at the end of the whole lesson, then we might not have captured the true essence of lesson observation.

Lesson Study is all about students' learning and development. Therefore, it is critical to assess the learning during lesson and not just after the lesson is over. So, keen observation skill of the teacher is crucial. The teacher needs to be able to assess the needs of the student before, during and after the lesson. (G2. LSR.23.03.2009)

Teacher 3 with more than 20 years of teaching experiences but still new to Lesson Study made her last reflection on Lesson Study as she described below.

Lesson Study enables the teachers to raise their awareness of competencies in their subject areas. Such lessons provide the teachers the chance to discover their own knowledge gap

and to make improvement in their teaching. Lesson Study can also provide the opportunity for teachers to learn from experienced peers. As an observer, teacher can also develop instructional expertise in the delivery of the lesson. Observers can take note of the tone of voice of the teacher, the choice of words and the manner the lesson was executed. Questioning technique can also be honed by watching an expert teacher in action. In short, Lesson Study reflective nature enables teachers to enhance instructional practices in the classroom. Self reflection, constantly engaging oneself, increase awareness on the teaching and learning environment will ensure the continuous professional development of the teacher. (Teacher 3.SR.27.03.2009)

Conclusion and Recommendation

This paper has described the learning journey of mathematics teachers from SEAMEO countries in their first experience of Lesson Study during the course they attended at RECSAM. Teachers' positive views toward Lesson Study parallels the global trend that reports Lesson Study as a vehicle for teacher professional growth, personal transformation, and improved student learning. Even though the Lesson Study presented during the course did not meet the ideal Lesson Study process due to time constraints and background differences, however, this study shows that these teachers were able to engage in the inquiry process of Lesson Study and successfully bring about change in their practice that addressed the learning needs of their students.

Despite their positive views expressed towards Lesson Study as a means for teacher professional development, teachers still faced time pressures for completing the syllabus or curriculum when they returned to their country. This problem could be alleviated by having a supportive working environment in which school policy provides significant incentives to the teachers who conduct Lesson Study with their colleagues. The school may also work collaboratively with the local university to assist teachers in designing and conducting Lesson Study in their classrooms.

It is important to note that the findings of this study on Lesson Study are contextual and cannot be considered as applying to other contexts. However, the description of how Lesson Study was implemented and the suggestions provided may prove to be useful to others who choose to experiment with Lesson Study. Therefore, it is advisable to document project work in such a way that future participants of RECSAM may learn from these experiences. This could involve publishing a manuscript of participants' learning journey as described in their project work. This could act as a resource to boost participants' spirit to continue their Lesson Study practices at their school upon their return to their own country; and also encourage future RECSAM participants to actively participate during the course. Finally, it is hoped that this study may benefit RECSAM's newly born sister Centre – SEAMEO QITEP in Mathematics - in delivering its course related to the development of Lesson Study culture and practice.

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Appendix

My Understandings and Views toward Lesson Study

Dear Participants,

We would like to know your understanding and views toward Lesson Study. Please answer all questions and statements. Your feedback is greatly appreciated. Thank you.

Part 1. Personal information

1. Gender (Please check.): ☐ Female ☐ Male
2. Year of teaching experiences: ____ years

Part 2. Experiences with Lesson Study

1. Have you ever conducted Lesson Study? ☐ No ☐ Yes
2. How often do you reflect on your teaching? ☐ Never ☐ Sometimes ☐ Often
3. Have you ever thought to improve your teaching? ☐ Never ☐ Sometimes ☐ Often
4. Do you know the steps in doing Lesson Study? Please elaborate your answer below.

Part 3. My view of Lesson Study

Please indicate your agreement towards the following statements by circling the appropriate numbers (1=Strongly disagree; 2=Disagree; 3=Agree; 4=Strongly agree).

No	Statement	Choice			
1	I would like to do Lesson Study regularly	1	2	3	4
2	I am happy to do Lesson Study with my colleagues	1	2	3	4
3	I do not want to ever do Lesson Study	1	2	3	4
4	I do not look forward to doing Lesson Study with my colleagues	1	2	3	4
5	Lesson Study will improve my career in teaching	1	2	3	4
6	Lesson Study will not improve my teaching competencies	1	2	3	4
7	Lesson Study will enhance my problems solving skills in my classrooms	1	2	3	4
8	Lesson Study will not help my students learn better	1	2	3	4
9	I always do reflection before teaching my students	1	2	3	4
10	I always do reflection during my teaching	1	2	3	4
11	I always do reflection after my teaching	1	2	3	4
12	Reflection will not help me to improve my teaching	1	2	3	4
13	Teacher should make an effort to do Lesson Study	1	2	3	4
14	School principal should encourage teachers to do Lesson Study	1	2	3	4
15	Lesson Study should be integrated as a part of school culture	1	2	3	4
16	Doing Lesson Study can be used as school policy	1	2	3	4

Thank you☺!