

Lesson Study in Bolivia and the Transformation of Teachers

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Lesson Study can provide an important means to improve the quality of education in developing countries, during educational development projects being conducted by the Japanese. This paper will investigate teachers' attitudes regarding Lesson Study in Bolivia, and discuss changes in teachers' attitudes through the introduction of the program. Although there is much literature in the field of Lesson Study in developing countries, that mention promoting factors of the program, the study of teacher's attitude and change is still new with little literature on this subject. This paper discussed teachers' attitude change by reporting quantitative and qualitative data obtained from teachers implementing the program. As a result, the investigation showed that introducing Lesson Study to teachers produced results both seen and unseen. These results included more interest in improving lessons in addition to an interest in relationships with their co-workers. Moreover, continuing Lesson Study created stronger relationships, and created further interest in open classes and reflection meetings.

Keywords: educational development, lesson study, transformation of teachers, collaboration

Background

Bolivia is a developing country in Latin America with many complicated problems. The problems in education are particularly serious and in need of urgent solutions. For example, there is a decline in academic achievement of children and a problem of teacher's quality (Ministerio de Educación, 2004). In August 2003, a project done in cooperation with Japan was created to solve the educational problems in Bolivia. Lesson Study program is the core activity of the project.

The traditional teaching style in Bolivia is teachers instilling knowledge through a simple method, where students write everything in their notebooks and memorize the information (Nishio & Kubota, 2009). Bolivian teachers have been essentially working alone, without an environment of open classes and reflection meetings, where teachers collaborate with others for improving lessons in the school. Some teachers did not know the value of open classes and reflection meetings because this was their first experience with this method of teaching. Therefore, they interpreted it in various ways.

Lesson Study involves: 1) Making a set curriculum for the class. 2) Having teachers study model teachers and educational skills that they will continue to develop over time. 3) Having teachers use their abilities and shape their confidence (Baba, K., 2005). Moreover, as in developing countries, it is believed that improving classes could be done by sharing educational techniques. Educational development projects being conducted by the Japanese was used much in Lesson Study (JICA, 2009). In these projects were Lesson Study programs on how to cultivate educational subjects, and Lesson Study programs on how to cultivate educational skills. The former was used in projects in Indonesia, the Philippines and Laos. The latter was used in Vietnam and Zambia. For Bolivia, Lesson Study not only stressed educational subjects but educational skills as well. Through Lesson Study, educational techniques and teacher improvement were promoted as its main goals (Hori, 2009).

Nishihara and Sawamura (2001) concluded that organization of the teacher group and developing leaders is important to promote the program from Lesson Study in Honduras. On the other hand, from Zambia's Lesson Study, Baba and Nakai (2009) showed that it is effective to implement the practice of a program that is managed by the headmaster who understands and supports the work of the teachers. There are factors to promote the program, but it is more important to clarify the changes of teachers during the implementation of the program, because the transformation of teachers could create a new cultural norm of teacher culture instructions. This paper will describe how teachers received Lesson Study and how

teachers changed through the influence of the program in Bolivia, which previously did not have a system of Lesson Study. This paper will clarify the transformation of teachers through Lesson Study in Bolivia and examine future implications of the program.

Lesson Study in BOLIVIA

According to the Ministry of Education in Bolivia (2008), Lesson Study is defined as follows; Lesson Study is a form of education and research that is achieved through the participation of the teaching staff. Lesson Study has three objectives. First, to solve the problem of education. Second, to improve the teaching-learning process. Third, to create opportunities for continuous self-formation. Among these objectives are contained four steps: Organization, Preparation, Development, Systematization and seven activities (Figure 1). Open classes and reflection meetings are contained in third step (Development). These activities are similar to methods done in Japan.

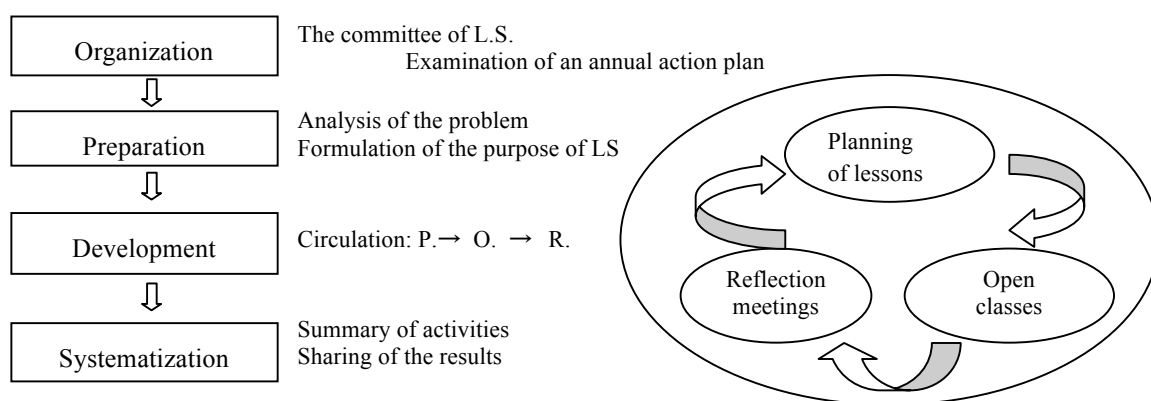


Figure 1. Process of lesson study in Bolivia

Major objectives for the Bolivian Lesson Study included cultivating educational skills and encouraging collaboration among teachers. Moreover, conditions were set up so that many teachers could become participants in Lesson Study in addition to changing the research content of various positions. Furthermore, through teacher collaboration, many opportunities for study and training of teachers were created to make materials and lesson plans.

Lesson Study was conducted experimentally by teachers of eight schools in La Paz and Cochabamba from 2003. It was a full-scale effort from 2005. In February 2010, that number increased to 500 schools (JICA, 2010). Lesson Study practices resulted in visible changes in teachers. Improvement in technology assisted in lesson planning and blackboard use. Specially, it was splendid improvement in blackboard use. However, the program had some problems, such as difficulty in the formation of relationships with teachers, maintaining old traditions, and teachers' resistance due to characteristics in the culture of Bolivian teachers. Therefore, some ideas have been changed in teacher training for Lesson Study.

Research Objective and Method

Research Objective

The purpose of this paper is to discuss the transformation of the attitude of teachers, who participated in Lesson Study and examine the future of the program in Bolivia. It is necessary to pay attention to invisible, mental changes in teachers for continuous development of Lesson Study in Bolivia. For Lesson Study will be established by teachers who understand the value of Lesson Study and practice it on their own initiative.

Research Method

Quantitative methods and qualitative method were used to measure changes of teachers' behaviors and perceptions in this research. The methods used questionnaire data, interview data, and data from participant observation. One hundred and fifteen teachers ranging in age from 20 to 50 participated in this research investigation. Each of them implemented Lesson Study to improve their lessons in elementary school.

Data collection. In this research the following data was collected from February 2009 to March 2010 at Sucre City.

(a) Questionnaire. First, representatives of the Ministry of Education in Bolivia gave an interview with regard to Lesson Study. Then eight key words were derived based on prior interviews with representatives of the Ministry of Education. They were the following words. < Importance, open classes, reflection meetings, teacher relations, relationship with parents, event of study, lesson improvement, awareness of work > Then an 11-item questionnaire was created. Answers to each question were selected from five choices using A Likert Scale (Strongly agree ~ Strongly disagree). The questionnaire contents are shown in the graph below (Table 1).

(b) Participant observation. Ordinary classes and open classes were observed by the researcher in four places, Chuquisaca Province Education Office, Ovando Elementary School, Avecia Elementary school and Sucre Elementary School.

(c) Interview. Semi-structured interviews were exercised by seven teachers. Interviews lasted more than 25 minutes to ask about two main points that related to consciousness in lessons and relations with others.

Table 1. *Questionnaire Regarding Lesson Study*

Q.1	I think that Lesson Study is important.
Q.2	If possible I would not want to conduct open classes.
Q.3	I found exchanging opinions useful after reflection meetings.
Q.4	It is important to share and collaborate with others in order to develop Lesson Study.
Q.5	Open classes should not be seen as a singular event.
Q.6	I think that Lesson Study serves to improve the lessons.
Q.7	Lesson Study worsens current relationships of teachers in the school.
Q.8	Lesson Study helps to build a relationship of mutual trust between teachers and parents.
Q.9	Lesson Study is necessary for teacher's professional development.
Q.10	After participating in Lesson Study, professional awareness related to my work has changed.
Q.11	It is important that teachers mutually share experiences through Lesson Study.

Procedure. The data from questionnaire was scored by A Likert Scale. Using Strongly agree (5 points), Agree (4 points), Undecided (3 points), Disagree (2 points), and Strongly disagree (1 point). Teachers were divided into two groups. Group A consisted of 44 teachers with experience of Lesson Study under two years. Group B consisted of 67 teachers with experience of Lesson Study over two years. Interviews were recorded on tape and translated from Spanish into Japanese. Then the data from the interviews was coded phase by phase. The coded data were categorized until causal relations among categories were generated. The core category for explaining teacher's transformation were extracted and interpreted along context. The data of participant observations was used as further evidence to triangulate the findings.

Finding and Discussion

Figure 2 shows the teachers' attitude toward Lesson Study.

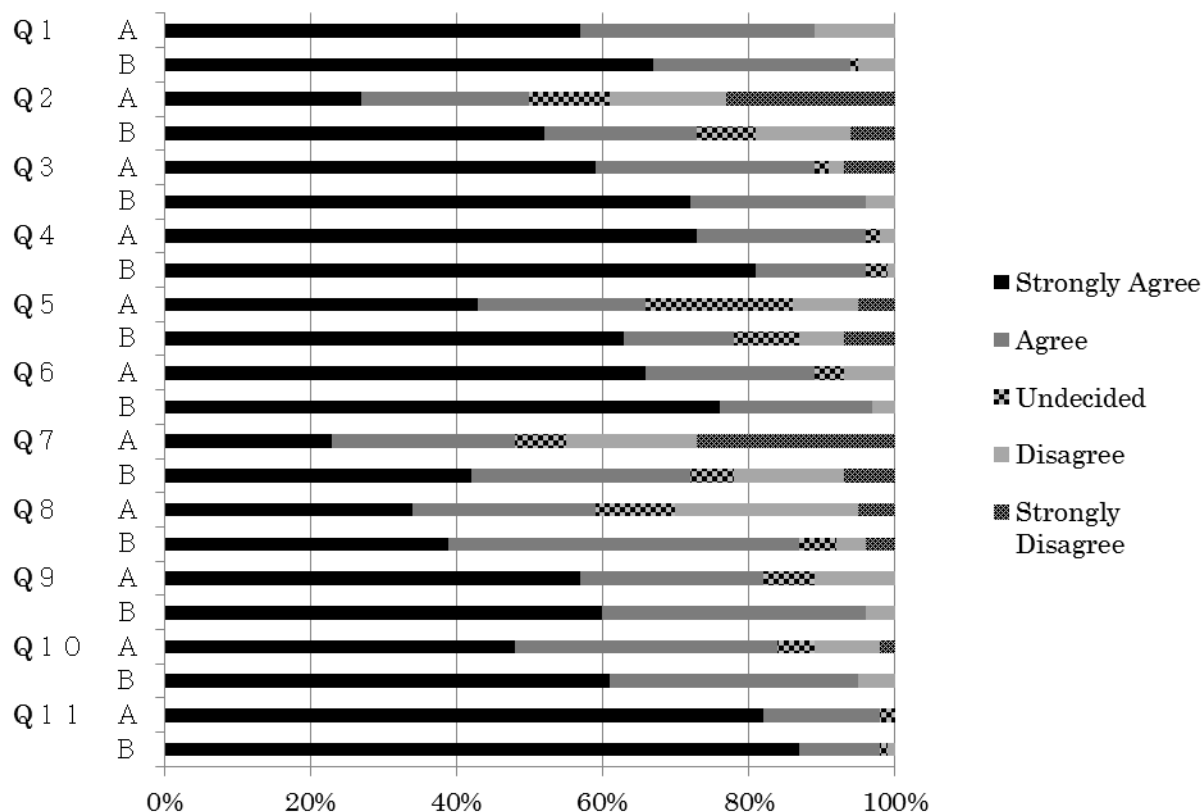


Figure 2. The teachers' attitude toward lesson study

The teachers' changes of attitude toward Lesson Study was separated into five categories.

- a) The attitude toward Lesson Study
- b) Relationship with teachers
- c) Relationship with parents
- d) The teachers' opinion of open classes
- e) The teachers' opinion of reflection meetings

Table 2. The Attitude Toward Lesson Study (Positive Response)

	Q. 1	Q. 4	Q.6	Q. 9
Group A	89%	96%	89%	89%
Group B	94%	96%	97%	94%

As a result, question 1,4,6, and 9 showed that teachers affirmatively accept Lesson Study in Table 2. Moreover, the difference between group A and group B is hardly noticeable. As an example of changes in school through the introduction of Lesson Study, Teacher L in her 40's mentioned that "Until now, each teacher had a different teaching plan and all were teaching individually. But, now after participating in the Lesson Study they have begun to work collaboratively. In my school, we make the activity plans and research curriculum for the week in teams, rather than individually. That has been really useful to improve my class."

Teachers in Bolivia have not had the opportunity to work collaboratively in school. However, teachers have made time available to adjust the working hours of each other, and have begun to work

collectively, since the introduction of Lesson Study. In contrast, Teacher A in her 20's mentioned that "Lesson Study has been really helpful for me because it shows concretely us how to improve our teaching". The practice of Lesson Study was a first experience for teachers in Bolivia. However, the teachers hope to improve their self-leadership skills in hopes to improve their class through the help of Lesson Study.

Table 3. *Relationship with Teachers*

	Pos. Response	Neg. Response
Group A	48%	45%
Group B	72%	22%

Table 4. *Relationship with Parents*

	Pos. Response	Neg. Response
Group A	59%	30%
Group B	87%	8%

As a result, question 7 showed that positive conscious to form relationship with teachers is the lowest compared to other items in Table 3 (Group A: 48%). Lesson Study is essential to discuss with others the practice of teaching. Teachers in Bolivia were hesitant to participate in discussion together due to their strong opinions. Teacher U in her 40's mentioned the difficulty of forming a good teacher relationship. She said, "Teachers in Bolivia were weak on listening to what other people said, instead they continued to express their personal views on topics. Sometimes the Lesson Study has positive and negative effects on teacher relationships." Moreover, Teacher B in her 30's mentioned the need for support of the principal. She said, "In my school, the principal often worked on building stronger relationships with all teachers creating a positive working environment. That is why the atmosphere in the school and the relationships of teachers were getting better." On the other hand, teacher relationship of group B showed to be better than group A in comparison with continuous years of teaching research. Therefore, we consider that building relationships between teachers were one of the key reasons to continue the practice of Lesson Study. In addition, question 8 showed that parent relationship of group B was better than group A in Table 4. Originally in Bolivia, there were no customs such as Parents Open Day like in Japan where parents could communicate and interact with teachers of the school. So there were often problems due to the lack of understanding and emotional gap between teachers and parents. Teacher M in her 50's mentioned about changes related to teachers and parents. She said, "Previous parents were always on guard watching my every move. But, now parents could understand how class lessons are through parent visits. Parental cooperation would help my teaching practice.

Moreover, Teacher E in her 30's mentioned "It is really helpful if parents know the style of my teaching and the current state of their children in school. Many parents joined in open classes and it made me more confident." Parents were no longer on guard because they now understood my teaching abilities and trusted me. The good relationships between teachers and parents not only enhanced the confidence of teachers, but also deepened the trust between parents and teachers.

Table 5. *The Teachers' Opinion of Open Classes*

	Pos. Response	Neg. Response
Group A	50%	39%
Group B	73%	19%

Table 6. *The Teachers' Opinion of Reflection Meetings*

	Pos. Response	Neg. Response
Group A	89%	9%
Group B	96%	4%

Question 2 showed that eagerness of teachers to have open classes in Table 5. Eagerness of group B is higher than group A. However, in group B, approximately one fifth of teachers are reluctant to have open classes. Although a large number of teachers were selected by the school to have open classes, many teachers wanted to reject it. Then, Teacher C in her 20's said, "There were two teachers who rejected open class in my school. The reasons why were that they were scared to be watched in their classes and they have no time to prepare for visitors." Many schools in Bolivia had the principal sometime enter the classroom in order to evaluate the teacher's performance, but other teachers did not enter the classroom. So classrooms generally are locked.

Teacher B mentioned about the transformation of their conscious. She said, "I did not feel happy for the first time to have open class and be criticized by others. However, while I was having the open class, I began to understand the purpose of this class, and found it was useful to improve my teaching. That is why I was willing to have open class every year". Doing open classes meant other teachers would evaluate teacher performance level and determine teaching ability value of their peers. It was a major

challenge for teachers. However, through their own experience, teachers who felt that it helped to improve their class and enhanced their motivation. On the other hand, greater their experience teaching, the greater they opposed participating in Lesson Study. It was critical that they built trust among teachers in the school.

Question 3 showed that high awareness of the teacher to have reflection meetings in Table 6. There were not many differences between group A and B. Reflection meetings were not conducted like a traditional teacher training, but training by fellow teachers themselves. The school in Bolivia need more training and teaching skills to be effective teachers as shown. The Lesson Study through the examples provided of teachers' feelings, Lesson Study satisfied the needs of teachers. Through the reflection meetings, teachers began to realize that it was really important to learn about each other. However, the school culture in Bolivia was highly visible. Sometimes the strength of self-assertion may lead to criticism by others. Teacher L told of a bitter experience. She said, "In the reflection meetings of open class. I received a harsh criticism from everyone. I heard my criticism and it was very sad." Teachers should understand the purpose of the reflection meetings and train coordinators to provide constructive criticism in a positive manner to allow an effective outcome. In addition, it was really necessary to deepen the trust between teachers and try to understand and respect their different types of thinking. Collectively they could make a greater difference.

Conclusion and Future Direction

This paper discussed about the transformation of the attitude of teachers by introducing Lesson Study conducted in Bolivia. The investigation showed that not only visible changes but also invisible changes occurred among teachers by conducting Lesson Study in Bolivia. Invisible changes are higher motivation to improve lessons and awakening of conscious of using collaboration. Moreover, growing sense of solidarity among teachers began to appear through continuing the program. Teachers who exchanged methods of instruction and reflected on their classes, formed a new sense of their own teaching. The consensus of opinion about good lessons seems to arouse interest of each teacher to improve the class. Lesson Study, a method of planning lessons collaboratively with others and improving lessons through the practice, will provide a new cultural norm in teacher culture in Bolivia.

From this study, it is suggested that Lesson Study will enhance the teaching techniques of teachers and also improve the awareness of professionalism of teachers. Currently, Lesson Study has been found as having useful value to help improve the quality of teaching. However, quality of teaching differs due to the motivation of teachers and their sense of responsibility to the children. The lesson planning phase, the phase to prepare materials and the techniques based on the plan to implement the program is in no exaggeration supported by the human nature of teachers. Therefore, it is necessary to consider the impact to teachers' awareness when they use Lesson Study system for teacher training.

Future challenges are to verify promotion of collaboration between teachers and to discuss directions to improve Lesson Study in Bolivia.

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