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## Learning Action Cell as Professional Development Model: An Adaptation of Lesson Study

Maricris G. Mendoza, *Saint Louis University*

Ferina G. Peralta, *Saint Louis University*

RubyJane L. Anamong, *Saint Louis University*

Kathlyn K. Bangao, *Saint Louis University*

Janice S. Carbonel, *Saint Louis University*

Professional development is the key to educational improvement Lewis (2002). A structured model of professional development is Lesson Study which originated in Japan. Lesson Study is a collaborative approach for teachers to plan, present, observe, and evaluate and reflect on classroom lessons. Since its introduction to the educational community years back, it has instigated interest among educators and researchers worldwide. In the Philippines, the Department of Education (DepEd) in cooperation with the National Institute for Science and Mathematics Education Development of the University of the Philippines (UP NISMED) has been actively promoting lesson study to public and private institutions all over the country through workshops and seminars. Furthermore, adapting the framework of Lesson Study, the Department of Education (DepEd) issued a memorandum, DO 35 s2016, entitled 'the Learning Action Cell (LAC) as a K to 12 Basic Education Program School-Based Continuing Professional Development Strategy for the Improvement of Teaching and Learning' to support the continuous personal and professional development of the teachers. Learning Action Cell, according to DepEd, is a group of teachers who engage in collaborative learning sessions to solve shared challenges encountered in the school facilitated by the school head or a designated leader. This has been mandated to the public elementary and high schools in the country but has not yet been fully institutionalized especially in private institutions.

For this reason, six teachers from different private schools and one teacher from a state university teamed up to study the transferability of Lesson Study vis-à-vis Learning Action Cell in a university setting. The research lesson was on Systems of Linear Equations wherein history of mathematics was integrated. The lesson was prepared guided by the notions of productive pedagogies. This paper discusses the experiences of the team from their attempt to replicate Lesson Study - their reflections and the lessons they have learned and its impact to their teaching profession. Data indicated that the participants learned (a) the value of collaboration and open-mindedness in the planning and evaluating the research lesson, (b) the use of history of mathematics as motivational tool, (c) the role of questioning strategies and instructional materials in conducting the lesson, (d) the significance of reflecting and evaluating the lesson, and (e) the challenges that need to be addressed when conducting a Lesson Study. Also, feedbacks from the participants showed that lesson study is a useful process that could greatly improve the teaching-learning process. The activity allowed the participants to have a renewed commitment and new directions towards professional development. Moreover, the participants hope that more seminars and trainings on Lesson Study/ Learning action Cell be provided to members of the educational sector, whether public or private, so that Lesson Study may be carried out properly and for a sustainable Learning Action Cell. Hence, lesson study is recommended

to further enhance learning and professional development.

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## How Does the Formation of Joint Planning Skills Help to Improve Teaching Practice of Teachers?

Arilana Murzagaliyeva, *Center of Excellence*

The basis for the research is the insufficient level of quality and depth of implementation of Lesson Study approach in the schools of the region despite the existing mechanism of operation and interaction of the Center of Excellence branch in the city of Kostanay from 2013. While the analysis of literature on the effectiveness of the use of the Lesson Study as a way of professional teacher training demonstrates that the application of this approach has only a positive effect.

In this regard, two stages of the research were conducted: a review of the literature on the identification of qualitative characteristics of the implementation of the Lesson Study was accompanied by a simultaneous analysis of the methodological support of the Center of Excellence branch in the city of Kostanay for a qualitative implementation of the Lesson Study and an empirical study of that at which stage of implementation the quality of the Lesson Study implementation happens.

The first stage of the work ended with the following conclusions: the "Dynamic model for the implementation of the Lesson Study approach", recommended to Kazakhstani schools for implementing into the current practice of comprehensive schools at the system level, let understand at what stage the mechanisms of this recommended model do not work.

Thus, the external circle of interaction and methodological support are ensured, namely: if we take the level of the coordinating department of the Center of Excellence, then the resources of the website [cpm.kz](http://cpm.kz) and the methodical literature of the Center of Excellence are directed to support the teachers in the implementation of the Lesson Study; At the level of the coordinator throughout Kazakhstan, the main difficulties of teachers were identified and recommendations were given, at the level of the Center of Excellence branch in the city of Kostanay there is universal support for the implementation of the Lesson Study in the schools of the region, which includes both course preparation and post-course support through a number of methodological development activities, interaction through the Lesson Study support areas has been established, the activities of the leading schools in cooperation with the supporting schools also contain the implementation of this approach.

In order to determine effective mechanisms for the development of professional network communities of teachers in the Kostanay region, Center of Excellence branch in the city of Kostanay organized an annual panel presentation on the implementation of the Lesson Study approach. At the level of the Lesson Study school coordinator creation of working groups for implementation was ensured. However, teachers are not motivated to work within these working groups. The analysis of the last panel presentation, in which 35 out of 49 supporting schools in Kostanay region took part, which is 79,5%, allows us to conclude that the school working group focuses on conducting the lesson, observation and interviewing of the student. While the stage of harmonizing ideas, discussing effective approaches, joint planning and interaction are ignored by teachers.

The focus of the research was the area of difficulties in the implementation of the Lesson Study

precisely at the level of the activity of the School Working Group, which showed an imperfect practice of joint planning in view of the insufficient formation of social skills as part of emotional intelligence.

The report will present the results of the research, which will allow to work point-by-point with the teachers of the Lesson Study working group for stimulating the motives for realizing the quality work within a particular creative group for the formation of joint planning and interaction skills that will result in successful teaching and learning.

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## Implementation of Number Head Together Combined With Point Counter Point (PCP) to Increase Students Motivation and Critical Thinking

Sri Endah Indriwati, *State University of Malang*

Herawati Susilo, *State University of Malang*

Desy Yanuarita Wulandari, *State University of Malang*

Critical thinking skills that become challenges in the 21st century must be continuously taught to the students, so that each individual can use these skills to think, act, and live life. The results of observation showed that students' learning motivation and critical thinking skills in teaching and learning course were low. In this regard, an effort was needed to minimize existing problems, among others through the implementation of learning models which can improve students' learning motivation and empower students' critical thinking skills. Research done in odd semester of 2015-2016 by implementing the Number Head Together (NHT) model combined with the active learning Point-Counter Point (PCP) was based on Lesson Study. The objective of the research was to increase students' learning motivation and critical thinking skills in teaching and learning course. This research was included in Classroom Action Research. The subjects of this research was 33 students, 3 males and 30 females. The data were measured using tests, observation sheets, and questionnaires. The results showed that the implementation of NHT combined with PCP can increase: 1) students' learning motivation by questionnaires was indicated from the increase of classical average value equal to 4.66% (improvement on attention aspect 2.02%, relevance 1.72%, confidence 0.64%, and satisfaction 0.28%); by observation sheets which was indicated increase of clasical average value equal 18,65%, and 2) students' critical thinking skills which was indicated from the increase of classical average value of 58.77% (improvement on aspect of formulating problem 14.43%, inducing ability 6.56%, deducing ability 8.20%, taking action 7.71%, evaluating 9.58%, and making arguments 12.29%).

Keywords: Critical Thinking Skills, Motivation, Numbered Head Together (NHT), Point Counter Point (PCP), Lesson Study (LS)