

# Lesson Study and Clinical Supervision: A Model for Improving Teachers Professionalism

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**Keywords:** Lesson study, clinical supervision, teacher professionalism.

**Abstract:** This article describes a model for improving teacher professionalism through Lesson Study and Clinical Supervision (LSCS). This model is the results of Research and Development (R&D). The data in this study were collected using documentation, observation, and interview. This model has been applied by two groups of teachers (Civic Education and Indonesia Language) in senior high schools. Each group consisting of three teachers, one of them was as a model, and the rest were as observer and consultant. Three steps of Lesson Study (LS) are a plan, do and see. Before implementing a Lesson Study, the groups of teachers should do Clinical Supervision (CS) which consists of a model teacher, teacher ad observer and a headmaster. Based on the results of this study through quasi-experimental methods to see the effect of the program, the validation of experts, and its implementation, it can be concluded that LSCS have feasibility and effectiveness to improve teacher professionalism. Increasing the professionalism of teachers through the application of LSCS has an impact on the achievement of student learning outcomes before and after the implementation of LSCS.

## 1 INTRODUCTION

Teachers' quality influences the quality of education. The problem of increasing the ability of teachers is inseparable from the issue of the practice of learning activities. Therefore, the teacher has a significant role in improving the quality of education (Todorescu *et al.*, 2015; Davies *et al.*, 2014). Besides, a teacher is one of the essential components of education wherever education and the learning process were implemented. It is impossible, without teachers, training could take place, even with advances in technology.

To enhance the quality of education, it is necessary to improve the competencies of teachers, because they are essential resources in determining the success of students in their study. In the end, it will influence the achievement of educational goals. Like a key in education, the improvement of the quality of teachers cannot be compromised, since resolving the problems of teachers will be the solution most education problem in a country (du Plessis, 2015).

## 2 BACKGROUND

The teacher is a profession that has great responsibility in determining progress in the field of education. Not only teaching, but also guiding, directing, training, assessing, and evaluating students. Thus, the teacher (including a lecturer) is a profession, like other professions such as accountants, pharmacists, lawyers, doctors and others. A professional teacher is required to have four competencies, namely: "pedagogy, personality, social, and professional."

Despite the evidence that the teachers who have been passed teachers certification program should implement the four existing competencies (pedagogical, professional, social and personality), it turned out to have different dimension. The teachers who have passed the certification program should have an increase in their competencies and performances, so even though they have receive their certificates, they need to improve themselves by implementing Lesson Study and Clinical Supervision (Proceedings First Annual International Seminar on Trends in Science and Science Education, 2014). Thus, it is expected to be a model

of effective and innovative solutions which can increase teachers' professionalism. In this study, it was limited to teachers of Civic Education and Indonesia Language in middle school.

The term Lesson study (LS) is most directly associated with Makoto Yoshida in 1999 who first introduced it in Japan, after the second world war. The term LS is derived from Japanese language, *jugyo-kenkyu*. *Jugyo* means lesson and *kenkyu* means study or research (Takahashi & Yoshida, 2004; Chokshi & Fernandez, 2004; Bjuland and Mosvold, 2015). Lesson Study develops in many parts of the world namely the US, Australia and other countries, including Indonesia. LS is a model of teacher professional development in improving performance conducted jointly by a group of teachers (Avalos, 2011; Nesusina *et al.*, 2014; Ninlawan 2015; Şener, 2015).

LS is a small group teachers collaborative activity in the same subject to discuss, teach and systematically reflect on one lesson, identify learning problems, then make lesson plans, learning material, scenario learning, instructional media, and implement them in accordance with the learning scenario (one teacher implement learning while others observe). After that, the observer evaluate and revise hence the need for a program or a process of professional development of teachers (Avalos, 2011; Ninlawan, 2015; Şener, 2015; Leavy and Hourigan, 2016).

Among the activities that can improve the professionalism of teachers are including by implementing lesson study based education and training of the teaching profession. It is in line with Anggara and Chotimah (2012), they concluded that the application of the lesson study based Council Subject Teacher has a positive impact on reaching the professional competence of middle Based on the needs of teachers through a regular cycle. This weekly cycle includes planning, Clinical supervision is a form of professional guidance based on their needs through a regular cycle in planning, careful observation of the implementation, and assessment of the immediate and objective feedback on actual performance, to improve teaching skills and professional attitude of the teachers. Through the practice of teaching to the clinical supervision of teachers helped to develop themselves so that the gap between the real teaching behavior and the behavior of ideal instruction becomes increasingly smaller.

The differences between clinical supervision to non-clinical supervision are discussed as follows (La Sulo, 2005). Clinical supervision is carried out as a

cycle that includes planning, teaching observations and feedback and follow-up discussion of the latter which will be the input for the next planning In one cycle with three phases and their activities in each of these stages are:

- Scene of the initial meeting, the meeting is held at the request of a teacher after he has devised a plan of instructional design. At this stage, there are several important activities, such as creating an atmosphere, reviewing teaching plan that includes evaluation of learning outcomes of interest method, and others related to teaching and learning activities that will be implemented, assess teaching skills to be trained, especially the indicator choose or develop observation instruments that will be used to observe the teachers who are teaching and reiterated the assessment conclusions.
- Teaching observation stage, the teacher is showing, and is observed by supervisors following the contract/agreement.
- Phase-end meeting, the meeting should be done immediately after practice teaching, so that the perception of teaching and learning activities are still fresh in the minds of both parties. At this meeting reviews the recorded data with instruments which have been agreed at the stage of the initial meeting. The main activities in this phase include:
  - providing reinforcement, and asking for the opinion/feeling about the training of teachers in general, so cultivated a relaxed atmosphere, so that teachers do not feel checked/judged, so freely examine him;
  - reviewing teaching purposes;
  - discussing contract targets;
  - exploring/analyzing data from observations, and with the help of supervisors, teachers tried to interpret the data and concluded that the results of view;
  - asking about teaching and learning activities that have been done, particularly regarding teaching objectives; establish follow-up and subsequent exercise.

Teacher professional development is described as a process embracing all activities that enhance professional career growth or as formal and informal experiences throughout the teacher's career (Borko, 2004; Cheng and Wu, 2016).

Lesson study itself is an activity that consists of three stages, namely stages of Plan, Do and See. The first stage is Plan (preparation). In this stage the teaching teams consisting of three teachers of the same subject implement Lesson Study activities. At this stage, they plan of making learning devices, such as lesson plan, teaching materials, student worksheets, media learning, and assessment instruments. It also makes problem identification, planning and evaluates class to be selected as a pilot class. The second stage is, *Do* (implementation), one team member agrees to become a teacher model, implementing the learning process in the classroom, while the other team members are assigned to observe the learning process and student activities. In other words, this phase is the implementation phase, and during the next cycle is an implementation based on a recommendation. Furthermore, the third stage is *See* (reflection), lesson study team collectively reflect or discuss based on observations relating to the activities of learners and the learning process and follow-up. At this stage is the stage, it is evaluation and review of the results, as well as on the stage of the next cycle it observation of the implementation and assessment of effects of inspection with promptly and objectively about the real appearance of her teaching (Taib *et al.*, 2015).

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### 3 METHOD

This study adopted the Research and Development (R & D) method by Borg and Gall (2002:775-776) to provide information to the researcher to answer the research questions, actually there are ten stages,

but in this study, they have been simplified into three stages. Namely: (1) Initial Investigation, (2) the development stage, and (3) The testing phase.

This method was chosen because it is a suitable method for developing and improving the professionalism of middle school teachers with the required information thoroughly in the first stage, which starts with the conduct of the study. In the second stage, the activities carried out is the model validation and test of practicality. Validation of the model is done by experts to pass judgment or comment on the initial design of the model, this is done in order to test the feasibility of the resulting model, while the practicality test done by asking teachers use the resulting model, and in the third stage is stage of testing the model, which at this stage apply in two group i.e., Civics Education teachers (CE teachers) and Indonesia Language teachers (IL teachers). In the other words, this research was conducted by two groups of teachers in middle school in South Sumatera Indonesia. Each group consists of three teachers. Besides teachers, the participants of this research are the principal and vice principal of the school as Clinical Supervisors.

This research was done to test the feasibility and effectiveness of the model, by using quasi-experimental methods to see the effect of the program.

The data in this study were collected using documentation, observation, and interview. Besides, as supporting data, questionnaire and test methods were also used, documentation was used to collect lesson plan and other teacher preparation such as teaching materials, learning media, tests instruments).

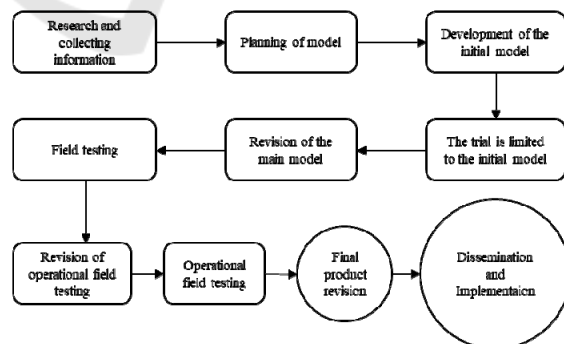


Figure 1: Research and development (R & D) method

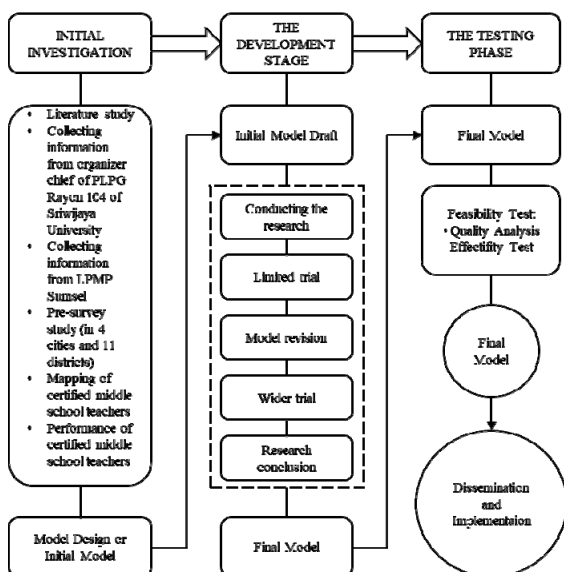


Figure 2: Simplified research procedures

Observation is used to observe the real-life contexts in that the teaching occurred in live classrooms or when implementation of LSCS occurs starting from pre-cycle to consultation of the teacher to clinical supervision. The questionnaire is used to collect data from students about their opinion of implementation of LS by teachers, last tests method to know the impact of implementation of LSCS to their motivation and students achievement. The data analysis of the lesson plans including learning materials, learning media, instrument tests which produced by teachers was an ongoing process from the first week to eight weeks.

## 4 RESULTS AND DISCUSSION

Before applying the LSCS, the teachers and headmaster and researchers as consultants do training to have the same perception about LSCS. Then they discuss lesson plan and in which class and which theme of the curriculum of each course. After that teachers do a simulation of LSCS, from this activity, the next step is to determine who will discuss and is chosen as a model teacher model. The LS focuses on the numbers of teaching in the first class of middle school.

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Each group of LSCS drafted their first lesson plan and sent it to the researchers. The researchers checked each lesson plan and sent annotated feedback on the lesson plans to the respective LSCS groups (Step 2 and 3, Table 1). After that researchers give feedback, then discussed with the researchers in class sessions or in meeting times outside of class. Each team (CE teachers and IL teachers) sent a revised lesson plan to the researchers, and the feedback and meeting cycle continued until agreement was reached that the lesson plan was final revision. This activity occurred again before ‘second teaching process’ (Step 2-8, see Table 1). As part of the analysis, the researcher annotations were collated, and the data were organized and treated as four Competences Based (CB) as stated in curriculum, each CB consisting of a series of revised lesson plans. Hence, lesson plans for each group were examined across time, and the challenges experienced, and changes made to the lesson plan were identified.

Results the feasibility and effectiveness of LSCS. The feasibility and effectiveness of the design models LSCS have been produced so that it becomes a model of innovative improvement of professional teachers, and also it had been done a research trial conducted by a team of teachers, and the result has been undertaken dissemination through seminars.

The next LS model is combined with the CS model. Where the activities that must be performed after the formation of a team of LS, and LS before the activity starts, is as Figure 3.

Table 1: Implementation Plan of LSCS

No./Day	Step	Activities	Data Collection techniques
1	Collaborative Analysis of curriculum of Civic	<ul style="list-style-type: none"> <li>Introduce about LSCS</li> <li>Form initiator LS teacher at the school teacher in one school subject</li> <li>Identify of Core Competence (CC), Basic Competence, learning objectives (BC), learning material, method of teaching and learning, learning media, instruments test</li> <li>Creating 4 lesson plans</li> </ul>	<ul style="list-style-type: none"> <li>Observation of groups discussion about LSCS</li> <li>Documentation</li> <li>Photograph</li> </ul>
2-3	First simulation of LSCS by Civic Teachers	<ul style="list-style-type: none"> <li>Practicing the LS by the teacher and CS team</li> <li>Observing</li> </ul>	<ul style="list-style-type: none"> <li>Observation by researcher and head master and vice headmaster</li> <li>Document analysis</li> <li>Interview</li> <li>Discussion</li> <li>Video</li> </ul>
4-5	Discussing and Revising Lesson plan	<ul style="list-style-type: none"> <li>Reflect of practicing LSCS</li> <li>Revising the lesson plan</li> </ul>	<ul style="list-style-type: none"> <li>Observation</li> <li>Notes taken during group meeting of researchers and LSCS</li> <li>Participants following the lesson</li> </ul>
6-7	Second simulation of LSCS by Civic Teachers	<ul style="list-style-type: none"> <li>Practicing the LS by the teacher and CS team</li> <li>Observing</li> </ul>	<ul style="list-style-type: none"> <li>Observation by researcher and head master and vice headmaster</li> <li>Document analysis</li> <li>Interview</li> <li>Discussion</li> </ul>
8	Discussing and Revising Lesson plan	<ul style="list-style-type: none"> <li>Reflection of practicing LSCS</li> <li>Making final revision</li> <li>LSCS presentation</li> <li>Reflection from each teacher</li> </ul>	<ul style="list-style-type: none"> <li>Observation by researcher and head master and vice headmaster</li> <li>Notes taken during group meeting of researchers and LSCS</li> <li>Video</li> <li>Individual reflection by the teacher</li> </ul>

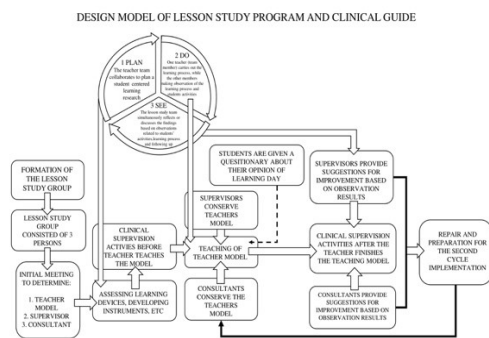


Figure 3: Process of lesson study and clinical supervision

#### 4.1 Plan

Before implementing LSCS, the teachers should be writing a lesson plan. In the implementation of learning based on the lesson plans created by teachers. Lesson plan is to be implemented by teachers in the focused on learning objectives. Here is an explanation of the aspects considered in lesson planning.

Lesson planning instrument consists of 14 items that assessed aspects:

- Conformity between the basic competencies of Core Competence (CC) 1, 2, 3, and 4
- Suitability formulation of indicators of achievement of competencies with indicators of achievement of competence
- Suitability formulation of learning objectives with competence achievement indicator
- Conformance with indicators of learning materials and basic competencies to be achieved
- Clarity and sequence of teaching materials
- Suitability learning strategies (methods and approaches) with the aim of teaching and learning materials
- Conformity with the learning strategies characteristics of the participants and learning scenarios (step-by-step instructional activities) with the objective to be achieved
- Learning scenarios (step-by-step instructional activities)
- The accuracy of the cover in the learning activities:
  - Rate includes aspects of basic competence of CC 1 - 4, to be achieved
  - Conformity assessment techniques with the indicator learning to be achieved
  - Completeness of assessment tools (matter, the key, the assessment rubric)
  - Integration between components in the lesson plan.

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- Completeness of assessment tools (matter, the key, the assessment rubric)
- Integration between components in the lesson plan.

Based on observations in cycles 1-3, from teachers, all the 14 aspect belong in either category, namely the aspect of the number 2, 3, 4, 6, 7, 8, 9, 10 and 12. Category well obtaining a score of 4. in addition, there are four aspects were classified as less good, namely the aspect of number 1, 5, 11, 13 and 14. Categories unfavorable obtain a score of 3, so that the total score of 71.

After observation of the lesson plan, the model teacher and supervisor, and the subsequent implementation of lesson study is the first clinical supervision. This activity begins with the application of clinical supervision by supervisors. Implementation of clinical supervision done by supervisors interviewed teachers model consisting of 10 items of questions, such as: on core competencies and basic competencies and the material being taught by the teacher models, repairing written that have been created by teachers is composed of: creation of enthusiasm and cooperation among teachers to make learning tools: lesson plans, teaching materials, using various learning media in accordance with core competencies, basic competencies, learning objectives, and teaching materials, develop student worksheets, assessment processes and results. lesson plans, teaching materials, learning scenarios, media learning and assessment instruments, stages of teaching done by teachers, that began with the introduction learning process is pray, making student readiness to learn with a perception, outlines the objectives, followed by learning the material linking the core and make conclusions and closing, the material is difficult to understand by students there is no. Sixth, the allegations regarding students' learning difficulties, no, the seventh, the readiness of teachers to teach, ready for the teacher began to feel confident to perform, models and instructional methods used by teachers is a learning model cooperative learning and group discussion teaching methods, teachers using tools help to support the learning process includes, textbooks, LCD projector and worksheets, the teacher was not bothered if the supervisors involved observing this learning process, because it can learn from this experience.

After conducting clinical supervision, the teacher model and supervisor enter the classroom. The teachers teaching the subject accordance with lesson plan and supervisor observed teaching and learning process. Teachers carry out learning activities include introductory, core activities and closing activity.

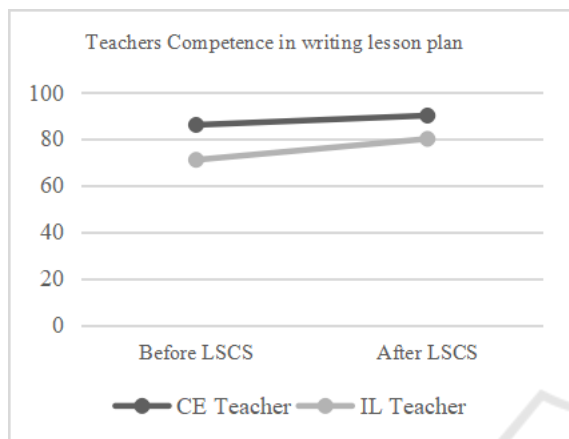


Figure 4: Teachers competence in writing lesson plan

#### 4.2 Do

Observations to LS conducted by the supervisors and teachers (CE teacher in Civic Education teaching and learning process and IL teacher in Indonesia Language teaching and learning process). Based on the comments by The Clinical Supervisor, events that arise during a lesson, namely, teachers display a slide that contains learning objectives. Students do activities such as group discussions and question and answer. Steps of learning developed relative to one another starting from the preliminary operations, the core activity (including writing down the steps complex procedures that have been determined, teacher). Then a group of students do a presentation in front of the class, another group responded. And teachers provide reinforcement. Teachers with students concluded learning, as well as the closing activities.

Teachers teaching materials developed following the level of ability of learners at the high school level. Learners use the knowledge to understand the concept of a new beginning. The questions asked teachers can encourage or facilitate the thinking of learners. The idea of learners appreciated and is associated with the material being studied, in this case, the teacher to respond to the answers of the students related to learning materials text complex procedures. The conclusion forward based on the

opinions of learners through the results of the discussion groups. The findings that has been filed by the purpose of learning. Teacher gives reinforcement learning achievement of students during the teaching with the teacher to give praise to the students who answered correctly.

In the process of learning, in addition to teachers are also learners as subjects of study. Based on the observations of all learners to concentrate from the start and as a core activity, learners are learning to follow because there are interesting phenomena presented by the teacher. Learners concentrate demonstrated through their actual ask questions, express opinions paying attention.

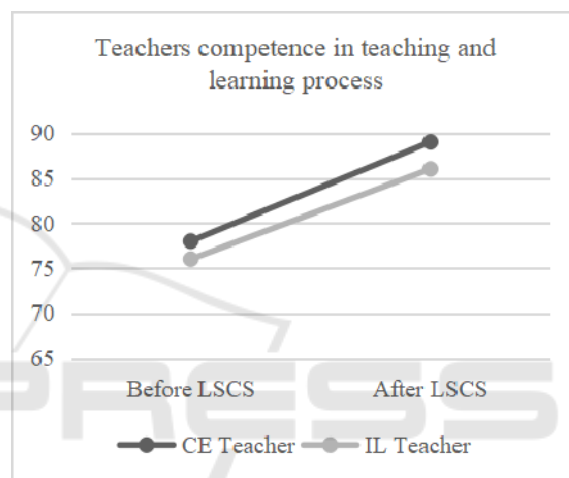


Figure 5: Teachers competence in teaching and learning process

#### 4.3 See

See is stand for the word reflection. This stage is done as soon as the teacher has finished teaching. In the other words, reflection activities performed immediately after the teacher has done the learning process, denotes the way the teacher is used to convey something related to things that have become weaknesses or good ones. The teacher conveys their experience during the learning process to the consultant and observer about what their feel is good and not good. In addition, the teachers also conveyed about what in accordance and not in accordance with their planned in the lesson plan. Clinical supervision is intended to determine the deficiencies in the current activity. In the clinical supervision, supervisor, consultant and teacher models discuss issues that have been agreed to be solved in this activity. The model teacher has carried out learning activities following the plan that has been prepared by consultative. Some weaknesses

made by the model teacher, by consultants, have been discussed with the modeling teacher and the observer teacher. Moreover, the observer, consultant conveys information about the decisions and results with the next lesson plan.

Based on the results of the teacher model report in this activity, they stated that they felt more confident in teaching, because before carrying out the learning process they conveyed to the consultants and observers and had been briefed on things that had strengths and weaknesses in the previous learning process, so they felt better and better, which they had never done before. This result is similar to Khokhovta (2018), that lesson study is a growing phenomenon in Kazakhstan which has a great potential to make a positive impact on teachers' learning, knowledge sharing, and collegiality as well as to become a powerful tool to help teachers overcome collaboratively.

Next, the supervisor gave alternative solutions for the teachers. From the description and analysis above it can be seen that through lesson study and clinical supervision (LSCS) the model can develop teacher professionalism, because all activities carried out are a series of actions that reflect the work of the teacher professionally. Teachers are more confident in planning learning activities because they can consult with supervisors and peers, teachers also feel more confident in carrying out them because they have been prepared carefully, and the teacher is also satisfied with the results because consultants with friends do every lesson through clinical supervision. As mentioned above, activities that can improve teacher professionalism include implementing lesson-based learning and teachers professional training.

The *Plan, Do, and See* the stage is a cycle, which is often also explained in several details. Weeks & Stepanek (2001) details the lesson study cycle into eight steps, namely focusing, planning, teaching the lesson, reflecting and evaluating, revising, teaching the revised lesson, reflecting and evaluating, and sharing results. As for Allen *et al.* (2004) detail the lesson study cycle into five stages, namely goal, setting, lesson selection, and planning, teaching the lesson with peer observation, debriefing the experience and consolidation of learning. All of them are in principle. the same, namely the collaboration and cooperation of the teachers.

This makes the lesson study recognized as a process that is consistently effective in developing the professionalism of some teachers in the United States. If the principles of lesson study are carried out systemically and sustainability, it is possible to

have an impact on increasing teacher professionalism, which in the end is expected to improve the quality of education.

Based on the results of this study through quasi-experimental methods to see the effect of this program, the validation of experts, and its implementation, it can be seen starting from the competence of the teacher in making learning planning (lesson plans including choosing student-centered learning models, creating and using learning media, and making assessment instruments) and in implementing learning (CE and IL subject) (see figure 4 and 5). So it's clear that Lesson Study and Clinical Supervision (LSCS) have feasibility and effectiveness to improve teacher professionalism.

That can be seen from the increase in teacher competence, especially in designing and implementing learning; and from the significant difference in students achievement before LSCS i.e in pre-cycle and after LSCS done (first cycle till fourth cycle) between the average results of the initial test and the final test of the students during the trial conducted.

Increasing the professionalism of teachers through the application of LSCS has an impact on the achievement of student learning outcomes. This can be seen from the increase in student learning outcomes before the implementation of LSCS (in the pre-cycle stage) and after the application of LSCS (in the cycle 1 to the fourth stage) (see figure 6).

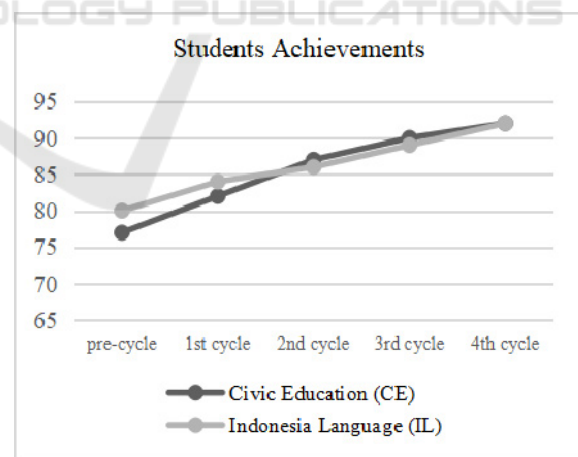


Figure 6: Students achievements before (pre cycle) and after LSCS (1<sup>st</sup> cycle – 4<sup>th</sup> cycle).

Moreover, to find out the opinions of students every after the learning process that they have carried out or the effectiveness of CE learning and IL through LSCS activities, students are asked to fill out a questionnaire. There are five questions, the first question: is today's learning interesting? All

students answer yes, for reasons because learning methods and learning models attract students' interest in learning and students can express their opinions. The second question, what did you get from learning today? Most of the students answered the lessons learned today, namely students could understand the material of Civic Education and Indonesia language learning material more clearly.

The third question, what should be improved in learning today? Most students answer what must be improved in today's learning, namely learning time should be longer, especially in the debate process so that students can express their arguments. The fourth question, what should not be done in today's learning? Most students answer that should not be done in today's learning is to take action outside the context of the lesson. The fifth question, the advice given for learning, most of the students answered that the learning time could be added because they felt the learning of PPKn and Indonesian at this time was very pleasant.

## 5 CONCLUSION

Based on the results of the study, it can be concluded that Lesson Study and Clinical Supervision (LSCS) have the feasibility and effectiveness to improve teacher professionalism.

All activities carried out by the teacher at LSCS are the responsibility of the teacher. Starting from making plans, implementing and evaluating. In addition, with this model, there are many benefits to be gained, such as the creation of enthusiasm and cooperation among teachers to make learning tools: lesson plans, teaching materials, using various learning media in accordance with core competencies, basic competencies, learning objectives, and teaching materials, develop student worksheets, assessment processes and results. In addition, the implementation of LSCS has also increased teachers' social skills; This is evident from the good relationship and close collaboration of the teacher to develop and produce learning on the road to achieving goals, giving teachers the opportunity to solve learning problems together. Also, there are improvements and changes in several ways, especially the increase in teacher knowledge about teaching materials and learning. Increasing the professionalism of teachers through the application of LSCS has an impact on the achievement of student learning outcomes.

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## REFERENCES

- Anggara, R. and Chotimah, U. (2012). Penerapan *Lesson Study* Berbasis Musyawarah Guru Mata Pelajaran (MGMP) Terhadap Peningkatan Kompetensi Profesional Guru PKn SMP se-Kabupaten Ogan Ilir. *Jurnal Forum Sosial*, Vol.5, pp 107-203
- Allen, D., Donham, R., and Tanner, K. (2004). Approaches to Biology Teaching and Learning: Lesson study – Building Communities of Learning Among Educators. *Cell Biology Education*. Spring. Vol 3: 001-007
- Avalos, B. (2011) 'Teacher professional development in Teaching and Teacher Education over ten years', *Teaching and Teacher Education*. Elsevier Ltd, 27(1), pp. 10–20.
- Bjuland, R. and Mosvold, R. (2015) 'Lesson study in teacher education: Learning from a challenging case', *Teaching and Teacher Education*. Elsevier Ltd, 52, pp. 83–90.
- Borko, H., 2004. Professional development and teacher learning: Mapping the terrain. *Educational researcher*, 33(8), pp.3-15.
- Cheng, X. and Wu, L. (2016) 'The affordances of teacher professional learning communities: A case study of a Chinese secondary school', *Teaching and Teacher Education*. Elsevier Ltd, 58, pp. 54–67
- Chokshi, S. and Fernandez, C., 2004. Challenges to importing Japanese lesson study: Concerns, misconceptions, and nuances. *Phi Delta Kappan*, 85(7), pp.520-525.
- Davies, D. *et al.* (2014) 'The roles and development needs of teachers to promote creativity: A systematic review of literature', *Teaching and Teacher Education*. Elsevier Ltd, 41, pp. 34–41
- du Plessis, A. E. (2015) 'Effective education: Conceptualising the meaning of out-of-field teaching practices for teachers, teacher quality and school leaders', *International Journal of Educational Research*. Elsevier Ltd, 72, pp. 89–102
- Gall, Meredith D., Gall, Joyce P. and Borg, Walter R. . 2002. *Educational Research and Introduction*. Seventh Edition. USA: Publication Data.
- Khokhotva, O. (2018). Lesson Study in Kazakhstan: case study of benefits and barriers for teachers. *International Journal for Lesson and Learning Studies*.
- Komba, W. L. and Nkumbi, E. (2008) 'Teacher Professional Development in Tanzania: Perceptions and Practices', *Teacher*, 11(3), pp. 67–83
- La Sulo, (2005), *Introduction To Education*, Jakarta Indonesia: Rineka Cipta



- Leavy, A. M. and Hourigan, M. (2016) 'Using lesson study to support knowledge development in initial teacher education: Insights from early number classrooms', *Teaching and Teacher Education*, 57, pp. 161–175
- Nesusin, N., Intrarakhamhaeng, P., Supadolc, P., Piengkesd N., Poonpipathana, S., (2014) 'Development of Lesson Plans by the Lesson Study Approach for the 6th Grade Students in Social Study Subject based on Open Approach Innovation', *Procedia - Social and Behavioral Sciences*. Elsevier B.V., 116, pp. 1411–1415
- Ninlawan, G. (2015) 'Factors Which Affect Teachers' Professional Development in Teaching Innovation and Educational Technology in the 21st Century under the Bureau of Special Education, Office of the Basic Education Commission', *Procedia - Social and Behavioral Sciences*. Elsevier B.V., 197(February), pp. 1732–1735
- Pemerintah RI. 2005. Undang-undang Republik Indonesia Nomor 14 Tahun 2005 tentang Guru dan Dosen. *Produk Hukum*, 54.
- Şener, S. (2015) 'Examining Trainee Teachers' Attitudes towards Teaching Profession: Çanakkale Onsekiz Mart University Case', *Procedia - Social and Behavioral Sciences*, 199(1998), pp. 571–580
- Sims, L. and Walsh, D. (2009) 'Lesson Study with preservice teachers: Lessons from lessons', *Teaching and Teacher Education*. Elsevier Ltd, 25(5), pp. 724–733
- Stepanek, J. 2003. A Lesson Study Team Steps into the Spotlight. *Northwest Teacher*. Spring. Vol. 4 No. 3: 9-1
- Takahashi, A. and Yoshida, M., 2004. Lesson-study communities. *Teaching children mathematics*, 10(9), pp.436-437.
- Taib M.R, Abdullah Z., Aila N.M.M., Yahyaa M.R, Jusoh N.M., (2015) 'Clinical Supervision Of Teaching Mara Junior Science College (MJSC), Malaysia', *Kil*. Elsevier B.V., 191, pp. 452–458
- Todorescu, L.-L., Popescu-Mitroi, M.-M. and Greculescu, A. (2015) 'Changes in Students' Expectations from Teachers' Roles in Secondary Education', *Procedia - Social and Behavioral Sciences*. Elsevier B.V., 197(February), pp. 190–196
- Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional.
- Weeks, D. J., & Stepanek, J. (2001). Lesson Study: Teachers Learning Together. *Northwest Teacher*, 2(2), n2.