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IMPROVING STUDENTS' COLLABORATION SKILLS AS TEACHER CANDIDATES THROUGH LESSON STUDY-BASED JiRQA LEARNING STRATEGY

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Abstract

The learning process of School-Based Management course by emphasizing collaboration skill is an effort to develop teacher candidates' character which can be implemented at school. Lesson study-based Classroom Action Research (CAR) was conducted on School-Based Management course for undergraduate students of Biology Education Department at Universitas Negeri Malang. The learning strategy of Jigsaw combined with Read Question Answer (JiRQA) was implemented to improve students' collaboration skill. The action research was conducted in two cycles in which each cycle consists of 4 stages; i.e. planning, implementation, observation and

reflection. The implementation stage was carried out following the steps of lesson study; plan, do and see (reflection). Meanwhile, the observation of the learning process and questionnaire at the end of each cycle were carried out to determine the students' collaboration skill. The average of students' collaboration skill in cycle I is 75.44% (good), while in cycle II is 80,69% (very good). The result of the students' collaboration skill in both cycle I and cycle II indicates that JiRQA learning strategy can enhance the students' collaboration skill in learning School-Based Management course.

Keywords

JiRQA, Students' collaboration skill, Classroom Action Research, Lesson Study

1. Introduction

Quality of education includes quality of learners, learning environments, content, processes and outcomes (UNICEF, 2000). Efforts to improve the quality of education should begin with the improvement of school management, in addition to improving teacher quality and development of learning resources (Grauwe, 2005; Widodo, 2009). Good management of a school is one of the keys to the success of the learning process (Muzakki, 2015). Higher education that act as Educational Institution for Teacher Training should design innovative learning strategies to prepare students as educator candidates to have 21st century knowledge and skills that its include school management development so that they can succeed in the world of work (Greenhill & Petroe, 2010).

Undergraduate Program of Biology Education, Faculty of Mathematics and Natural Sciences, Universitas Negeri Malang provides school management as one of the courses in its curriculum. Learning outcomes of school-based management courses including characteristics of an effective school, the foundation of school-based quality improvement management, measurement of school performance, functions that are decentralized to schools, good governance principles, school leadership management and school partnerships. The learning outcomes of school management courses require students to understand about concept as well as able to apply school management in school. In addition, the students are expected to solve the problems collaboratively based on issues occurring in schools. Therefore, the collaborative skills that is 21st century skill need to be instilled to the students as teachers candidate.

Collaboration is about learning to plan and work together, to consider diverse perspectives and to participate in discourse by contributing, listening and supporting others (Greenstein, 2012). Collaborative skills is the ability to work effectively and courteously in

teams that are heterogeneous, have the flexibility and willingness to help each other in achieving common goals (Greenhill & Petroe, 2010). Collaborative is a characteristic required by the school management course because educational input is the collective outcome of school community participation, not individual outcomes (Pradhan et al., 2011). Therefore, colaboration culture among the functions and individuals within the school, should be the daily habits of the school community (Yuliana, 2006). Teachers candidate should have collaborative skills so that they can succeed in the school.

The previous school management course was conducted with expository strategy as well as question and answer method in achieving learning outcomes. Based on observations made, it was found that 10 indicators of collaboration skills did not appear in the learning that was done. These indicators are the love performing tasks in teamwork, contribution in completing group tasks, motivation in group work, effort in group work, time management in group work, support for group members, readiness before group work, interaction skills during group work, flexibility in getting tasks, and reflections after doing group work (Greenstein, 2012). This collaborative skills indicator is important for students in problem solving especially in the context of school-based management.

Jigsaw learning strategy is one of cooperative strategies based on constructivism (Slavin, 2010). In Jigsaw learning, students learn in small groups of four to six people heterogeneously and collaborate with positive and responsible interdependence of the tasks learned (Arends, 1997). RQA Strategy (Read, Question, Answer) is a learning strategy based on constructivism, where students are invited to build their own knowledge by reading lecture material before learning conducted (Corebima, 2009). JiRQA learning strategy (Jigsaw combined RQA) (Bustami, 2017) is expected to facilitate students in mastering learning outcomes of school management learning to develop collaborative skills.

2. Method

This research was conducted on Biology Education Program, Biology Department, Faculty of Mathematics and Natural Sciences, Universitas Negeri Malang. The subjects of this research are 31 students of odd semester 2017 taking school management course. This research is Classroom Action Research (CAR). CAR in this research is conducted in two cycles, where in each cycle there are four stages: planning, implementation, observation, and reflection. Lesson Study (LS)'s stages performed, those are plan, do, and see at each meeting.

The data collected in this research are implementation of lesson study's stages, the implementation of learning's steps and students's collaboration skills performance. The data were collected by observation technique using observation sheet consisting of monitoring sheets of lesson study implementation, observation sheet of learning's steps and collaboration capability rubric. Observation were conducted by two observers at each meeting.

3. Result

3.1 Cycle I

The observation of cycle I performed during the implementation of the action is described as follows.

3.1.1 Implementation of Learning's Steps and Implementation of Lesson Study's Stages.

Table 1: *Percentage of Implementation of Jigsaw Syntax combined with RQA Cycle I*

No	Lesson Study	Observer	Implementation Percentage	Average	Implementation Percentage
1	I	1	88,24%	88,24%	88,24%
		2	88,24%		
2	II	1	94,12%	91,18%	
		2	88,24%		
3	III	1	82,35%	85,29%	
		2	88,24%		

The implementation of Lesson Study in cycle I is shown in the table below.

Table 2: *Percentage of Lesson Study's Stages Cycle I*

No	Stage	Meeting	Observer	Implementation Percentage	Average	Implementation of Lesson Study
1	PLAN	1	1	93,75%	90,62%	92,71%
			2	87,5%		
		2	1	93,75%	93,75%	
			2	93,75%		
		3	1	93,75%	93,75%	
			2	93,75%		
2	DO	1	1	86,36%	88,63%	88,63%
			2	86,36%		
		2	1	90,90%	90,90%	
			2	90,90%		
		3	1	90,90%	86,36%	
			2	86,36%		
3	SEE	1	1	81,25%	84,37%	88,54%
			2	87,5%		
		2	1	100%	90,62%	
			2	81,25%		
		3	1	93,75%	90,62%	
			2	87,5%		

3.1.2 Collaboration Skills

The result of collaboration skills obtained from observation and questionnaire in cycle I as follows.

Table 3: *Percentage of Collaboration Skills*

Instrument	LS	Percentage	Category
Observation	I	67,06%	Enough
	II	68,95%	Enough
	III	77,42%	Good
Questionnaire		79,75%	Good
Average		75,44%	Good

The students' collaboration skills is also seen from each indicator. The results of student collaboration of each indicator at the meeting can be seen in the following table.

Table 4: *Students Collaboration Skills per Indicator*

No	Indicator	Average	Category
1	Love performing tasks in teamwork	70,55%	Enough
2	Contribution in completing group tasks	71,93%	Good
3	Motivation in group work	74,82%	Good
4	Effort in group work	78,88%	Good
5	Time management in group work	74,71%	Good
6	Support for group members	77,22%	Good
7	Readiness before group work	76,81%	Good
8	Interaction skills during group work	77,63%	Good
9	Flexibility in getting tasks	65,53%	Enough
10	Reflections after doing group work	86,39%	Very Good

3.2 Cycle II

The observation of cycle II performed during the implementation of the action is described as follows.

3.1.1 Implementation of Learning's Steps and Implementation of Lesson Study's Stages.

Table 5: *Percentage of Implementation of Jigsaw Syntax combined with RQA Cycle II*

No	Lesson Study	Observer	Implementation Percentage	Average	Implementation Percentage
1	IV	1	100,00%	100,00%	100,00%
		2	100,00%		
2	V	1	100,00%	100,00%	
		2	100,00%		
3	VI	1	100,00%	100,00%	
		2	100,00%		

The implementation of Lesson Study in cycle II is shown in the table below.

Table 6: *Percentage of Lesson Study's Stages Cycle II*

No	Stage	Meeting	Observer	Implementation Percentage	Average	Implementation of Lesson Study
1	PLAN	4	1	87,50%	90,62%	89,58%
			2	93,75%		
		5	1	93,75%	93,75%	
			2	93,75%		
		6	1	93,75%	93,75%	
			2	93,75%		
2	DO	4	1	95,45%	95,45%	95,45%
			2	95,45%		
		5	1	95,45%	95,45%	
			2	95,45%		
		6	1	95,45%	95,45%	
			2	95,45%		
3	SEE	4	1	87,50%	87,50%	91,67%
			2	87,50%		
		5	1	93,75%	93,75%	
			2	93,75%		
		6	1	93,75%	93,75%	
			2	93,75%		

3.1.2 Collaboration Skills

The result of collaboration skills obtained from observation and questionnaire in cycle II as follows.

Table 7: *Percentage of Collaboration Skills*

Instrument	**LS**	**Percentage**	**Category**
Observation	IV	79,03%	Good
	V	80,73%	Very Good
	VI	81,00%	Good
Questionnaire		81,13%	Very Good
Average		**80,69%**	**Very Good**

The students' collaboration skills is also seen from each indicator. The results of student collaboration of each indicator at the meeting can be seen in the following table.

Table 8: *Students Collaboration Skills per Indicator*

No	Indicator	Average	Category
1	Love performing tasks in teamwork	77,88%	Good
2	Contribution in completing group tasks	79,68%	Good
3	Motivation in group work	83,54%	Very Good
4	Effort in group work	86,04%	Very Good
5	Time management in group work	80,24%	Very Good
6	Support for group members	83,54%	Very Good
7	Readiness before group work	80,80%	Very Good
8	Interaction skills during group work	83,55%	Very Good
9	Flexibility in getting tasks	74,05%	Good
10	Reflections after doing group work	89,76%	Very Good

Based on the observation sheet and questionnaire, the percentage of students' collaboration skills in cycles I and II is illustrated in the figure below.

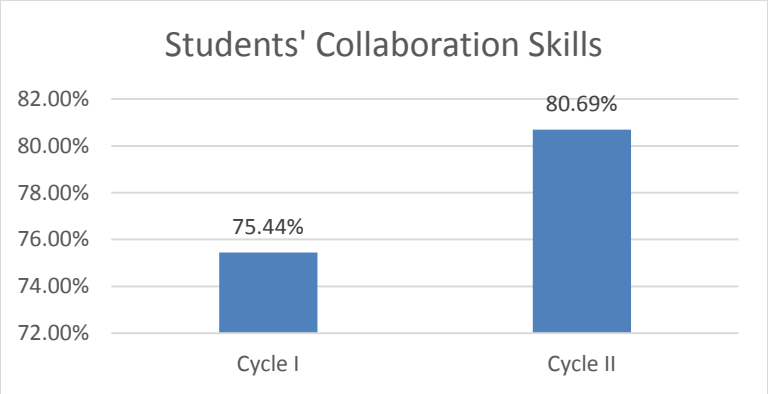

Figure 1: *Student Collaboration Skills*

4. Discussion

Student's collaboration skills have improved from the Lesson Study (LS) implementation in cycle I. At the beginning of learning with JiRQA strategy, students' collaboration skills is still in enough category. This is due to changes in learning strategies in the classroom. Students need to design strategies and adapt in learning that emphasizes collaboration in groups, both expert groups and origin groups. However, in the implementation of LS II and LS III students showed improvement of their collaborative skills. Rai (2011) explains that in learning that emphasizes collaborative, interaction between students leads elaboration of learning material together that can improve the learning process. Improvement in the learning process is, however, influenced by the characteristics of the students, including how the students adapt to the new learning strategy.

The indicators of love performing task in teamwork and flexibility in getting tasks are still included in the low category. Based on the result of questionnaire, it is known that student tend to prefer learn individually rather than collaborate in group. Students also show not willing if having additonal task from group members. According to Dorcas et al., (2014) the lack of teamwork of group members leads to a lack of successful in collaborative learning. This is because students do not have the same goals or targets. However, as collaborative learning is designed so that each student involved with the same goal of solving problems provided through the work sheet, the individual differences in the learning group will be replaced by the togetherness that is important to the success of collaborative learning.

Students' collaboration skills in LS cycle II have increased. This due to a change in learning scenarios through the combination of Jigsaw and RQA learning strategy. In LS V and LS VI, each student is given a role to solve the problem and propose the solution of the problem given as a school reformation team so that learning is more contextual. Englander (2002) explains that the real problems given to the students can improve the collaboration of students related to the increase in learner satisfaction solving problems related to their life and the actual problems together.

The indicator of flexibility in getting tasks in cycle II is the lowest percentage indicator compared to other collaboration skills indicators. Although students have shown good abilities in collaborative work, but there are some students still show unwilling to get additional tasks that were not originally assigned to them. In this regard, Macdonald (2003) explains that learning in group still provides an opportunity for lack of flexibility in doing tasks, which can be overcome by providing online assignments.

Students' collaboration skills in cycle I has increased in cycle II classically. Students' collaboration skills are increasing in line with the implementation of the LS-based JiRQA strategy. Improved learning through strategies implemented by each LS leads to improved student collaboration skills. Sato (2013) explains that the students's collaboration skills can be formed with the learning environment that is planned and implemented collaborativelly on LS. Gray (2015) also explained that jigsaw learning strategy implemented emphasizes collaborative among students can improve the relationship between learning process and learning outcomes.

5. Conclusion

Classroom Action Research by applying Jigsaw learning strategy combined with Lesson Study-based RQA has been able to improve students' collaboration skills in solving problems related to school management courses. This learning strategy can be applied later to the school management courses and other subjects to improve 21th century skills in either education major or other fields.

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