

## APPLICATION OF COLLABORATIVE PROBLEM-BASED LEARNING TO IMPROVE THE QUALITY OF TEACHING AND LEARNING ON APPLIED LINGUISTICS

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### **Abstract**

This study presents teaching process in applied linguistics course using Collaborative Problem-Based Learning (CPBL). The objectives are to see how CPBL increases: (1) students' active involvement in classroom activities, (2) lecturer-students and students-students communicative interaction, (3) students' creativity in finishing projects, (4) students' cognitive comprehension, and (5) level of students' satisfaction/ positive response to the implementation of CPBL. This study used a two cycle Classroom Action Research using descriptive approach. The subjects were 3 classes with 30 students each Applied Linguistic Course of English Department of IAIN Surakarta. This study revealed that students' motivation, communicative interaction, students' creativity in finishing projects, cognitive comprehension and students' satisfaction/ positive response to the implementation of problem based learning in Applied Linguistics course attained significant improvement.

**Keywords:** Problem Based Collaborative Learning, Applied Linguistics, Teaching and Learning Quality Improvement

### **1. INTRODUCTION**

Today the linguistic development is very rapid. Another aspect related to the study of language is also growing rapidly. The study of the language is not only focused on one aspect other than language but also has expanded to other aspects. Applied linguistics is a branch of linguistics that the emphasis on the general linguistic theory and methods in language teaching and research. Theoretically Applied Linguistics (Zoltan: 2008) is the science of applying linguistic theories and research results and linguistic fields for practical purposes. Applied linguistics can be used to solve practical problems related to language. Linguistic theory and linguistic research results are only used as a tool. Practical purposes as it is applied, for example: (1) Language Teaching Mastery, (2) Activity / Production Teaching Literature, (3) Activities/

Teaching Analysis and literary criticism, and (4) Teaching interpreter (Zoltan, 2008 and Evelyn-Farhady, 1999)

In the English Department IAIN Surakarta, Applied Linguistics courses is given to students with the aim that they can connect between general linguistic theories they learned with the method and practice of language teaching and research. Based on the observations, the learning process of Applied Linguistics has been done in PBI FITK IAIN Surakarta with conventional teaching methods with a model lecture. It therefore requires effective learning methods, innovative and fun learning environment that could later make students active, creative and happy to learn, that is Problem Based Collaborative Learning. Problem-Based Learning (PBL) approach departs from constructivist learning procedural sequence which includes non-linear. Learning tends not begin and end. Learning to walk in a cycle with the stages repeated (recursive). Learning by PBL also provides opportunities for learners to engage multiple intelligences (multiple intelligences) owned learners. The involvement of multiple intelligences in solving problems with PBL can be a vehicle for learners who have a variety of multiple intelligences to optimally involve the ability to solve problems.

PBL is an approach to learning through the efforts exposes students to the real problems that correspond to real life in various contexts such as home, campus and community. Students are expected to dig and find their own solution to the problem is given so that students become independent learners. While collaborative learning is a learning strategy that involves students (heterogeneous) to cooperate and participate actively so as to solve a problem. It allows students to master a concept, solving a problem through a process that gives students the opportunity to think, to believe in yourself and dare to express their opinions, being critical and positive practice and be able to interact socially. PBL is a collaborative learning model designed to influence patterns of interaction students to cooperate and participate actively in small groups.

According to the Ministry of National Education (2003), the main feature of PBL includes orienting students to the authentic problem or question. multidisciplinary, requiring the cooperation in the investigation, and produce work. In PBL learning situations problems became the starting point of learning to understand the concepts, principles and develop problem-solving skills. Pierce and Jones (Ratnaningsih, 2003) suggests that the events that must appear at the time of implementation of PBL are as follows: (1) Involvement (engagement) includes preparing students to act as a problem solver who can work together with other parties, exposing students to a situation that is pushing for mempu find the problem and investigate the problem while allegations and settlement plan; (2) Inquiry and investigation (inquiry and investigation) that includes activities to explore and distribution of the information; (3) Performance which presents the findings; and (4) Frequently asked questions (debriefing) is to test the accuracy of the solution and to reflect on the problem solving process.

PBL makes students become independent learners, meaning that when students learn, so students can choose appropriate learning strategies, skillfully used the strategy to learn and be able to control the learning process, as well as motivated to complete the study (MONE, 2003). In PBL students understand the concept of a starting material of study and work on problem situations (not defined) or open ended is presented at the beginning of the learning, so that students are given the freedom of thinking in seeking solutions to a given problem situation. Participation is included in cooperation to other parties to achieve the goal. While the achievement is a change in a person as a result of the learning process is accomplished students

in the form of knowledge and understanding of science studies. The process of learning through the model of PBL is considered relevant and able to encourage students to develop thought patterns in a problem-solving, in particular on the materials contained in the subject of Applied Linguistics.

The collaboration as a new model is applied into the following eight steps: (1) Lecturer divide the class into groups of heterogeneous; (2) Lecturer explaining the purpose of learning and group work to be done; (3) Lecturer calling the chairpersons of the group to choose one of several articles and dividing material collaborative tasks within the group; (4) Each member of the group making the hypothesis of each task with existing references; (5) To test the temporary answer (hypothesis), then the student must try to solve the problem so strongly believe that the answers are really fit. Is it in accordance with the temporary answer or not at all appropriate. To test the truth of the answers to the manner discussed with the group; (6) Once completed, through a spokesman (e.g. age group) present the results of the discussion; (7) Other groups can provide feedback on the results of the discussion; and (8) Lecturer gives a brief explanation (clarification) when an error occurs concept and provide conclusions.

Applied Linguistics is a course that connects between the theories of language/ linguistic common with its application both in language teaching, language studies and real practices of other languages in the community. Participants of Applied Linguistics Subjects in English Education IAIN Surakarta has a science background knowledge of different languages. Most of them have a nuanced knowledge of the language teaching and some others have a science background nuanced language literature. With the implementation of PBL for learners Applied Linguistics Subjects is expected to be able to connect between the language theory that they have to practice the language they would do in the real world with a more optimal

## 2. METHOD

This research was conducted in a qualitative descriptive approach. Qualitative approach was used in this study to get a clear picture and real events that appeared during the learning process, namely the process of implementation of the measures of applied learning in the classroom and learning achievement obtained. This type of research is the Classroom Action Research (CAR). It was the investigative process controlled by cycle reset and reflective independently conducted by a lecturer or lecturer candidates who had a goal to make improvements to the system, mechanisms, processes, content, competencies, or learning situations. Said, the process of CAR started from the stage of planning, action, observation and reflection to solve the problem and try out new things in order to improve the quality of learning. This CAR was conducted in two cycles, the cycle consisted of four stages: planning the action (planning), action (action), observing the action (observation) and reflection (reflection). The study involved students and researchers themselves in the learning process. Researchers and observers watched every event that occurred during the learning process to see the effectiveness of learning. The models were applied to improve the participation and achievement of students in the subject of Applied Linguistics. CAR here was designed to perform application Collaborative Problem Based Learning (CPBL) in the matter of supply and demand on the class of Applied Linguistics. Procedures and steps in the research of this class action followed basic principles of action research which used working procedure or study design consisting of action planning, action, observation and reflection in a cycle. The study consisted of two cycles, i.e. cycle 1 and

cycle 2 as seen on Figure 1.

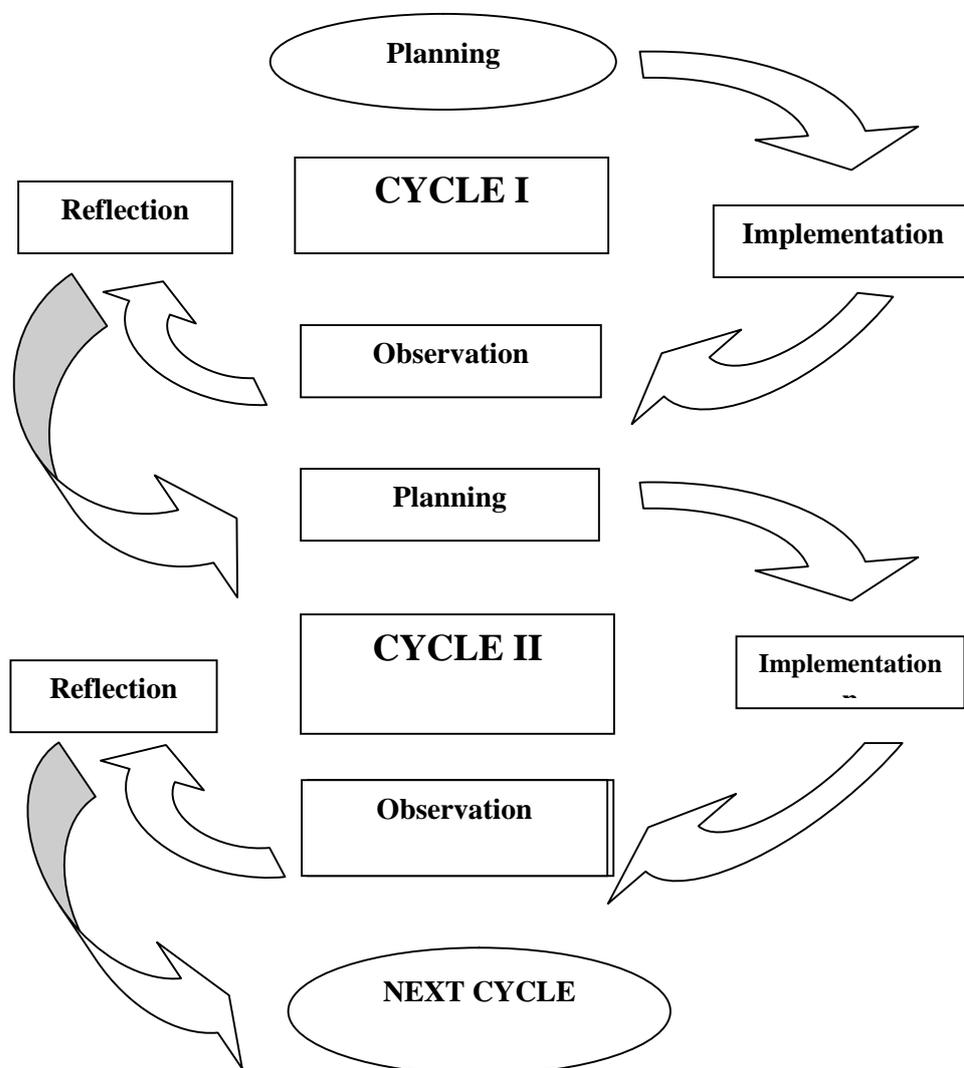


Figure 1. Cycles in the Classroom Action Research

This study used observation sheets, field notes, questionnaires and interview as the instrument. Observation sheet was used to see student participation in the group, the observation sheet student participation of elements of collaborative, presentation assessment discussion format, the format of assessment of learning outcomes affective aspects. Field note was used as data were not recorded in the observation sheet (4) Questionnaire was used to note student response after the acts that consisted of several aspects of the activity level of students, student opinion about the learning environment, and student opinion about the method applied learning. In addition, interviews were conducted before and after the action. These interviews addressed to a lecturer in Applied Linguistics and several students.

### 3. FINDINGS

In the first cycle, the acquisition value of pre test produced average value of student results is 55.5. Obtained the lowest score was 38 and the highest score was 73. The results of these tests are known that students who pass the study was 12.5% (4 students) and students who have not been thoroughly studied was 87.5% (28 students). See Table 1.

Table 1. Score of Pretest.

Interval Class	Classification	Frequency	%
85 – 100	Excellent	0	0
70 – 84	Good	11	37,93103
55 – 69	Fair	18	62,06897
40 – 54	Low	0	0
0 – 39	Very low	0	0
Jumlah		29	100

From the post test score gains generated average value of the test results of students was 80.61. The lowest value obtained was 60 and the highest score was 94. The results of these tests are known that students who pass the study amounted to 87.88% (29 students) and students who have not been thoroughly studied amounted to 12.12% (4 students). See Table 2.

Table 2. Scores of Post Test.

Interval Class	Classification	Frequency	%
85 – 100	Excellent	24	77,41935
70 – 84	Good	5	16,12903
55 – 69	Fair	2	6,451613
40 – 54	Low	0	0
0 – 39	Very low	0	0
Jumlah		31	100

Table 2 above showed that the accumulation of the lowest scores with sufficient classification in grade 55-69 interval of 4 people (12.121%), both on the classification of the class interval 70-84 as many as 18 people (54.545%) and very good classification in grade intervals of 85-100 as many as 11 people (33.33%). Overall based on the observations of investigators, it appears that most students are already active in the group discussions. They exchange ideas, learn from each other, giving and receiving ideas and opinions of others, which is understood to say that do not understand and in the classroom has created a conducive atmosphere.

The results of observation researcher and two colleagues covering the activities of lecturers in teaching and student activity in learning. Based on the results of observational data observer number of qualifying very good score is 12 and qualifying well is 8. The maximum score is 20. If the score excellent qualifications 5 then its value is 60. If a qualifying score either 4 then the value 32. Thus the percentage of average value price is, it can be interpreted based on the observation of the observer success kegiatan research included in category A. Observations student activity in learning is the total score that answered yes is 49 and the maximum score is

59. thus, the percentage of the average value is. This means that the level of success of the students included in category B +. The results of field notes show that the students are still lacking to participate during the learning process. So we can say that the act of the first cycle students have not fully meet the indicators that must be controlled, so that in the second cycle students are expected to be more motivated to be an indicator in aspects of collaborative learning can be mastered.

In the second cycle, the acquisition value of pre test produced average value of student results is 68.34. It obtained the lowest score 61 and the highest score 76. The results of these tests are known that students who pass the study amounted to 36.67% (11 students) and students who have not been thoroughly studied was 63.33% (19 students) as seen in Table 3.

Table 3. Students Passing Achievement on Pretest

<b>Interval Class</b>	<b>Classifikasi</b>	<b>Frequency</b>	<b>%</b>
85 – 100	Excellent	0	0
70 – 84	Good	11	37,93103
55 – 69	Fair	18	62,06897
40 – 54	Low	0	0
0 – 39	Very low	0	0
Total		29	100

The acquisition of post test scores have generated an average value of test results of students was 84.61. The lowest value obtained was 60 and the highest score was 98. The results of these tests are known that students who pass the study amounted to 90.32% (28 students) and students who have not been thoroughly studied amounted to 9.68% (3 students). Table 4 shows the achievement.

Table 4. Students Passing Achievement on Posttest

<b>Class Interval</b>	<b>Classification</b>	<b>Frequent</b>	<b>%</b>
85 – 100	Excellent	24	77,41935
70 – 84	Good	5	16,12903
55 – 69	Fair	2	6,451613
40 – 54	Low	0	0
0 – 39	Very low	0	0
Jumlah		31	100

The table 4 showed that the accumulation of the lowest scores with sufficient classification in class as much as 55-69 interval 2 (6.452%), both on the classification of the class interval 70-84 as many as 5 people (16.129%) and very good classification in grade intervals of 85-100 as many as 24 people (77.419%). Overall based on the observations of investigators, it appears that most students are already active in kegiatan group discussions. The results of the observation of the activity of a lecturer in learning is the total score of excellent qualifications and qualification are 17 well is 3. The maximum score is 20. If the score excellent qualifications 5 then its value is 85. If a qualifying score either 4 then the value 12. Thus the percentage the average value is, meaning that the success kegiatan research included in

category A. Observations of student activity in learning is the total score that answered yes is 56 and the maximum score is 59. thus, the percentage of the average value is, which means that the level of student success including in category A. The results of field notes stated that the increased participation of students from the first cycle to the second cycle.

Based on the data analysis of the observations made by researchers and colleagues of the activities of researchers in accuracy implementing Learning Implementation Plan (RPP) indicates the level of success in categories A and students in learning activities also indicate the level of success in category A. Based on the post test known mostly students answered correctly. And post the results of the test cycle 2 was obtained that the value of the average grade has increased in the amount of 84.61 when compared to the post-test cycle 1 that is equal to 80.21.

Results of student response to the implementation of the actions of collaborative learning on PBL and the type CPBL can be described as follows:

1. the students were delighted to learn Applied Linguistics Subjects .
2. the students tried to buy books Applied Linguistics Subjects .
3. The students study Applied Linguistics Subjects at home first before studying at the university.
4. The students follow the lessons from start to finish learning.
5. The student is trying to ask a professor or a friend if there Applied Linguistics material that I have not understood.
6. The students are very happy to learn of Applied Linguistics use the integration model of PBL and CPBL.
7. The students work on material Applied Linguistics in time.
8. The students with learning Applied Linguistics study model of integration makes me more excited to learn of Applied Linguistics.
9. The application of collaborative learning model of PBL and CPBL types can increase participation and progress in learning Applied Linguistics.
10. The students through collaborative learning model of PBL and CPBL can courage to express opinions and thoughts.
11. The students feel that Applied Linguistics is useful lessons for later life.
12. The students like PBL and CPBL than in the previous lecture.
13. Study using Applied Linguistics with collaborative learning models/ PBL and CPBL as the type of PBL make students more aware and are not easy to forget the material being taught.
14. The students feel model of PBL and CPBL types in accordance with the wishes of the students.
15. The collaborative learning model of PBL and CPBL types need to be developed for other subjects.

#### **4. DISCUSSION**

Discussion on the results of this study are limited observsai lecturers in applying the CPBL on Applied Linguistics in improving participation and achievement of students who appeared during the learning process in the first cycle and the second cycle. In this lesson students are required to participate actively in solving a problem. Student participation is divided into participation in groups and participation in collaborative learning elements. Student

participation in the group assessed based on the indicators that debriefing, the contributions, checks the accuracy of the answers, cooperation, take turns and sharing tasks. In the second cycle of student participation in the group has shown an increase in the maximum results for the second cycle students had the courage to answer and opinion, students had dared to ask the lecturer.

Cooperation among members of the group already began to appear, the group is no longer dominated by the clever and talkative, but among group members have shared duties and Rota so that tasks can be completed quickly. Group atmosphere is no longer crowded with talk outside of lessons. Students already discussed the matter with a group of friends, students are already taking into account input or opinion of the members of the group.

The achievements of each aspect on the second cycle is the debriefing aspects of 83.33%, up 23.33% from the first cycle, aspects of the contributions amounting to 81.11%, up 32.22%, aspects of examination answers accuracy of 70%, up 24.45 %, the aspect of cooperation at 86.67%, up 30%, aspects gilran download and share the duties of 73.84% or up 17:17% so that the second cycle there are three groups with good criteria, and three groups of criteria being. Student participation is based on the collaborative elements observed based on the elements positive interdependence, face-to-face interaction, individual accountability, interpersonal relationship skills.

Based on observations of student participation in the collaborative elements of the first cycle, the level of success in reaching every aspect of which aspects of positive interdependence success of 83.34% with good criteria, aspects of face to face interaction reached keberhasilan100% with good criteria, the accountability of individual success 77.78% with good criteria, interpersonal relationship skills to achieve success 83.33% with good criterion.

Based on observations of student participation in the collaborative elements of the first cycle, the level of success in reaching every aspect of which aspects of positive interdependence achieve success 88.89% with good criteria, up 5.55%, to-face interaction aspect of achieving success 91.67% with good criterion, down 8.33%, the accountability of individuals achieve success 94.45% with good criteria, up 16.67%, interpersonal relationship skills to achieve success 91.67% with good criteria, up 8.34% from cycle I.

Student participation is based on elements of collaborative on the second cycle is already showing results improvement where students already have the teaching materials used together in a group that is already more than three literature, students are helping one another in mastering the material and completing a task group of students is not dominated by clever, all students are communicating content and work groups. All groups has contributed opinion. All students are already evident actively in the discussion and study material among group members help each other to master the material prior to friends who are having trouble, students have confidence in the results of the answer.

The achievement of students after the implementation of Problem Based Learning Collaborative has been increased from the acquisition of pre-test or the ability initially and post test results or the ability of the end. Based on the analysis of learning achievements in the first cycle is known that the pre-test before the material provided indicates the average value of the 32 students of 55.5. Obtained the lowest score was 38 and the highest is 73. Compared with study graduation criteria set by the PBI FITK IAIN Surakarta is considered graduate student studying

if the value in this productive program is at least 70 and are considered class graduated in learning if 85% of the number of students scored at least 70, then the results of these tests are known that students who pass the study was 12.5% (4 students) and students who have not been thoroughly studied of 87.5 (28 students). Based on the acquisition of post test scores have generated an average value of test results of 33 students was 80.21. The lowest value obtained was 60 and the highest is 94. Based on the results of these tests are known that students who pass the study amounted to 71.05% (27 students) and students who have not been thoroughly studied amounted to 28.95% (11 students).

Based on the evaluation of researchers in the first cycle is still in the category of "very good" with the average percentage of students in the learning activity by 83.87%. While the results of the observation of the activity of the lecturers in applying the Collaborative Problem Based Learning on the actions of this first cycle with a percentage of 93%, this means that based on the results of observations conducted by researchers level of success are "very good". Based on the analysis of learning achievement at the second cycle after repair of the results of the first cycle of reflection is known that the pre-test before the material provided indicates an average value of 68.34 students obtained the lowest score was 61 and the highest is 76. There is a very good improvement of average learning achievement and graduation. When compared with the graduation criteria learning set by the PBI FITK IAIN Surakarta which students are considered graduate study if the value of the program productive is at least 70 and a grade is considered passing in learning if 85% of the students scored at least 70, then of the results of these tests are known that students who pass the study amounted to 36.67% (11 students) and students who have not been thoroughly studied amounted to 63.33% (19 students).

Based on the acquisition of post test scores have generated an average value of test results of students was 84.61. The lowest value obtained was 60 and the highest is 98. Students who pass the study amounted to 93.55% (29 students) and students who have not been thoroughly studied of 6.45% (2 students). When compared with the average value of post test students on the actions of the first cycle, the average value of the second cycle of post test is increased from 80.21 into 84.61 which rose 4.40.

CPBL responded to a student with a very positive means of students strongly agreed and responded lecturers well as the collaborative model, the students can obtain the benefits include the creation of a good cooperation relationship and healthy between students, students can socialize with friends, students can understand the lesson easily because it can learn not only from faculty, but also from fellow students, students become better participation where students become more active in learning, students do not only depend on the material professors but students are always looking for additional materials that are enriching experience. Rated students become better and students to be more active in learning without the fear and embarrassment again, besides CPBL is also capable of solving problems that occur in the relevant class in which the student is no longer passively accept the lessons and achievements of students also increased and collaborative learning model on PBL and Cooperative learning collaborative of PBL types can be new knowledge in learning strategies that will be implemented in the future.

## 6. CONCLUSIONS AND RECOMMENDATIONS

Participation of student learning by applying the CPBL increased from the first cycle to the second cycle. Student achievement by implementing CPBL also increased from the first

cycle to the second cycle. Student responses to the CPBL as strongly agree or strongly positive

Some suggestions that could be addressed include: (1) PBI FITK IAIN Surakarta are expected that CPBL applications can be used as consideration in future learning; (2) lecturer of Applied Linguistics can add insight to increase student participation in the learning process so as to create an effective learning and appropriate standard of competence expected; (3) researchers should use this insights as knowledge and experience in teaching later.

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